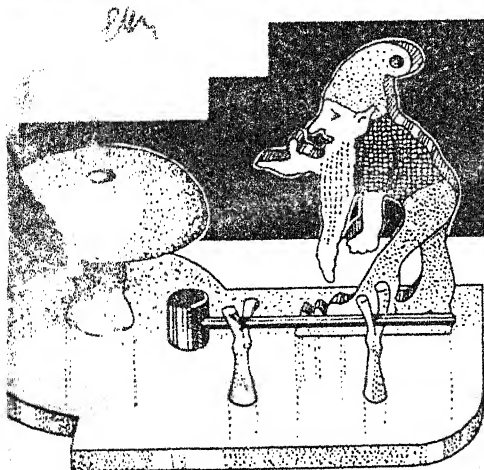
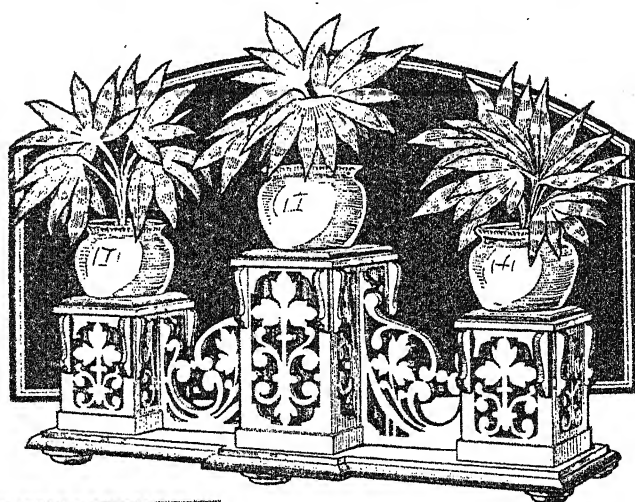


Hobbies

WEEKLY



FREE DESIGN SHEET
FOR THIS HANDSOME
VASE STAND



**NOVELTY
BELL GONG**

August 7th. 1937

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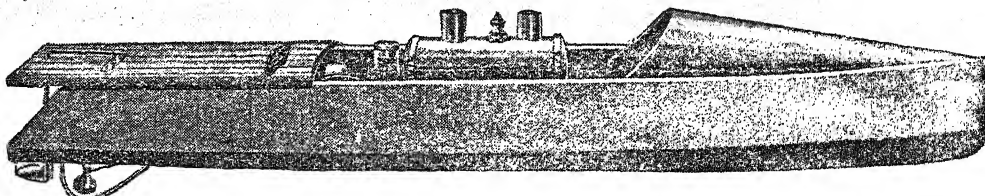
Vol. 84. No. 2181

**THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL**

BOYS! Have the Real Thing this Summer...

Steam always fascinates. It is such a live, potent force. A model Steam Launch provides endless joy for the modern boy. Racing across the pond.....the realistic "puff" of the exhaust.....tuning up to get that extra ounce of power. Have the real thing this summer—a Hobbies Steam Launch.

THE "Peggy" STEAM LAUNCH



21/-

Postage 1/-

31ins. long, 5½ins. beam. The hull is built by a special process and is finished with bright enamel. The engine is of super-heated pattern to produce a big head of dry steam quickly, exactly as large engines do. A drip lubricator adds to the free running and as all parts are accurately machined and carefully tested, the engine runs smoothly and sweetly for a considerable period at one filling. Two rakish funnels, are fixed to add realism to the boat as she steams steadily across the pond or lake. Packed in strong wooden box.

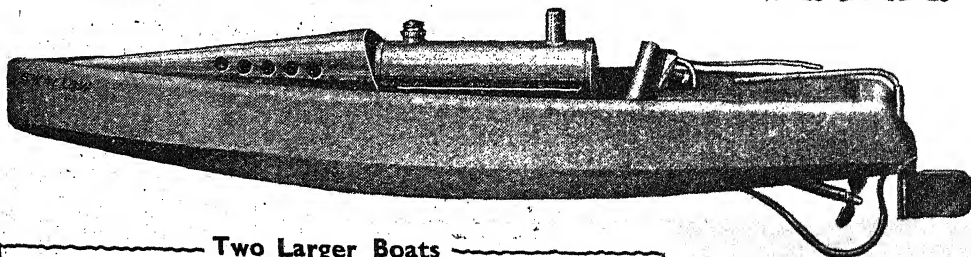
Steam is the Real Thing!

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20in. long, 3½ins. beam. This model Launch incorporates many new features. The hull is particularly light, whilst the engine is powerful enough to drive the boat 20 minutes at one filling. It is perfectly safe as the boiler is fitted with a safety valve. The engine is of polished brass, and the hull is beautifully finished in two colours of enamel. Packed in strong wood box.

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"EAGLE"

27 ins. long, 4½ ins. beam.
Single cylinder engine.
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28 ins. long, 5 ins. beam.
Twin cylinder engine.
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FRETWORK PEDESTAL VASE STAND

THIS week's large gift design sheet provides the patterns for making a handsome and unusual type of vase stand. As can be seen, it is a nicely fretted holder with three pedestals for a pot type of vase. We have, indeed, had a special vase made for it in brilliant green ware, which exactly fits the receptacle.

Moreover, as usual there is a complete parcel of wood in which all boards are supplied planed and cut the sizes required by each of the parts. In some cases several patterns can be put on the one board, but sufficient timber is provided for all the necessary work. Particulars of this are set out in the material list herewith, as well as the cost of the vases mentioned.

Pair Off the Parts

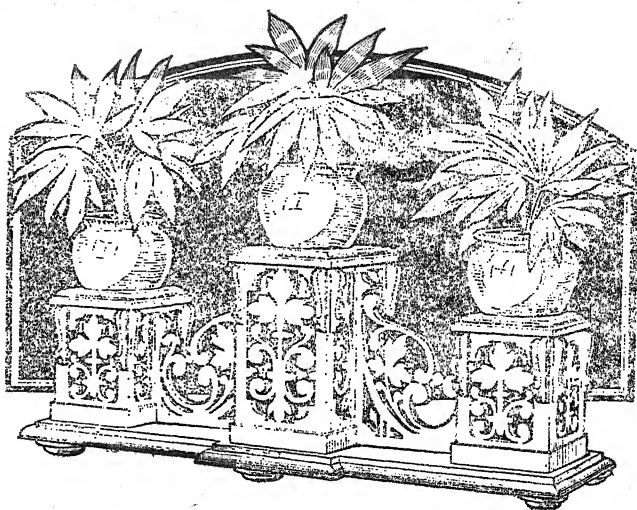
There is a fair amount of work involved, and the usual points must be remembered in getting out the work. It is advisable, for instance, where two small parts are being cut, to do them immediately after each other.

In this way, when you have completed one you can lay it by your side and watch out the points in cutting the second pattern. You may have gone slightly off the line or made the curve a little broader in one instance. It is, therefore, essential if this cannot be rectified, to have the second portion exactly like it, and to follow out the same lines in that one.

Again, in making the drill holes in the first piece of work, you may come across a position in practice which would have been better for the drill hole. Therefore, if you have the second piece of work at hand, you can make the drill hole immediately in the better place.

The fretted design consists of floral scrollwork, and each panel contains curves which sweep out from a central stem. Follow these out very carefully in each case. Another point, too, is to see that the connecting links where they finish are all the same.

If you glance at the detail at Fig. 1, you will see what a difference can be made. This is the point where good judges of fretwork can soon tell the ability of the worker.



Remember also when cutting across the grain down the narrow angle, that the saw is apt to jump across the gash into the opposite line if not kept under proper control. Fretwork, it must always be noted, demands as much care and attention in the finishing points as in the actual cutting.

Hints on Finishing

Spend a considerable time even after the cutting has been completed, in looking over the part, studying it carefully, and rectifying any little errors which may have crept in. For this purpose, the tiny fretwork files are essential, then finally the whole thing is cleaned up thoroughly with glasspaper.

Complete each piece as you come to it, both on the back and front, but at the same time notice any little lines on the pattern or points for screws where adjacent parts are to come.

For instance, the bracket pieces under the top are shown on the sides and some slight indication should be made with a pricker before the paper is cleaned off. Thus the position will still be seen when the other part comes to be joined up to it.

Another big point in the construction of this article, is the number of long plain joints where two parts butt up to each other. In only two cases is there a mortise and tenon joint. This butt joint must be true and each line of the edge straight. If not, the glue will not hold the two parts together satisfactorily.

The work of cutting straight lines is not one of the easiest and beginners may prefer to do this with a tenon saw rather than a fretsaw.

On the other hand, after a little practice you should be able to keep to the cutting line with the small blade. Be sure, too, to keep the saw upright. This is nowhere more important than in the cutting of an edge of wood which is to provide a joint butting up to another piece. You can see what a difference will be made if one edge of a piece is close to the adjoining part, but the other edge stands away. The glue cannot grip properly and the part will not make a good joint.

MATERIALS SUPPLIED

Fretwood.—For making this Vase Stand we supply a parcel of whitewood (including 6 No. 20 toes) 2/6 or sent post free 3/-.
Fittings.—3 (green ware vases (No. 6029) 2/3; a piece of linen cloth, 4d. (postage 6d.))
Complete parcel of wood, vases and cloth for 5/6 post paid.

With these little points in mind, we can go ahead with the cutting of the various parts in the thicknesses shown, and clean them all up. Notice where sectional drawings—such as in the base, top, etc.—are given, showing how the edge is to be rounded. This is done first by taking off strips with a plane, then finishing up with glasspaper to get a nicely curved surface.

In the case, too, where large central circles have to be taken out, as in the case of the tops of the vases, cut the outer edge first then shape it round according to the section, before cutting out the large circle inside. If the circle is cut first, then the work is liable to be broken with the turning and twisting during the shaping operations.

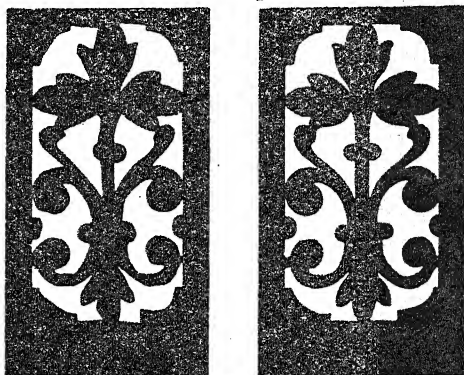


Fig. 1—Note the difference of bad and good cutting

Wherever possible, by the way, test the pattern down with a straight edge along the straight edge of the wood, as this saves you cutting that particular line. Notice, too, that the patterns in some cases on the sheet are shown together.

The Top Portion

This is the case of the top portions of the pedestal. Each top is formed of two pieces, the lower one being solid and the upper one only having a circle to take the vase. A note of this is shown against the proper pattern.

Now a few words about the construction. The first work is the base. This is made up in two layers and a detail at Fig. 2 is helpful. Get out the four narrow strips and glue them together under the upper base which is of thinner material. Then put in the two between pieces which fit into the mortise at A and B. This is essential because it rules the placing of the upright pedestals.

The Central Pedestal

Next put in the central pedestal consisting of its four long upright sides. Two of these sides are narrower than the others, and these are the ones which fit against the uprights already placed in, as well as between the front and back. Of course, all four will have been previously tested out before being glued up, and workers may also like to back up the fretted portions with linen,

paper, leatherette, or some similar fancy material. Even silver paper flattened out looks well to make the fretwork stand up strongly.

Round the base of this central pedestal is $\frac{1}{16}$ in. plinth, and this is glued to the bottom board as well as to the sides of the pedestal itself.

The top, as has been previously mentioned, consists of two pieces. Glue them together, then glue the whole thing very firmly down to the upright sides.

Another plan is to glue down the larger piece first, and if necessary drive in one or two fine fretnails very carefully. Then the upper piece can be glued on.

In order to make a good job of fitting, the vase should press tightly into the circle of the top. To ensure this, stand the vase on the part, pencil round the bottom then cut out with the fretsaw. Afterwards use the half-round file and chamfer the hole larger on one side of the wood to accommodate the sloping tapered sides of the vase.

The Outer Pedestals

We next come to the two outer pedestals which are erected in a very similar way to the central one. Notice they do not extend to the full width of the base, but leave a space of about $\frac{1}{4}$ in. all round.

These end pedestals can also be lined behind the fretwork in a similar manner to the central one, or if preferred some distinctive contrasting material can be used to make it distinctive from the central higher pedestal.

Glue all parts thoroughly, but do not put on the adhesive so thickly that it squeezes out through the joints. If it does happen to do so, wipe it away immediately before it sets.

Little fancy brackets are added to each of these pedestals to hang down below the top. These are dainty shaped parts of which 24 are required. To relieve the monotony of cutting, they should not be undertaken all at once, but got out between

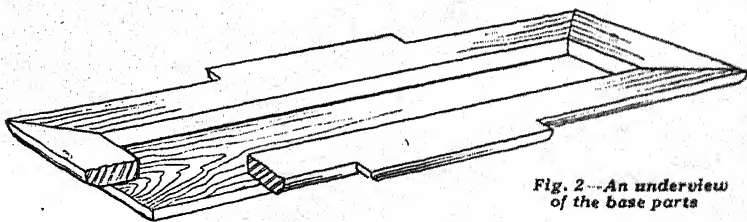


Fig. 2—An underview of the base parts

some of the other pieces. Each is glued below the top near the corner of the pedestal. Notice, however, that they are not actually close to the corner, but set inwards about $\frac{1}{16}$ in. This position is shown clearly on the pattern of the sides.

The whole of the article is raised on six feet, two at each end and one under the projecting portion in the middle. These feet in turn are composed of two pieces. There is the $\frac{1}{16}$ in. diam. circle of $\frac{3}{16}$ in. wood below which is glued the little round shaped toe supplied.

holes required at the top end of the bar (see Fig. 2) are drilled and countersunk to suit $\frac{1}{8}$ in. by 6 flathead iron screws.

The Table Board

At this juncture, obtain a piece of plywood (preferably birch) measuring 24 ins. long by 12 ins. wide by $\frac{3}{8}$ in. thick. This size, besides fitting in with the exemplar per square foot plan favoured by all woodwork supply stores, allows—if desired—an extra inch in the length and width of the table. The measurement suggested, you see, is a usual one suitable for most car seats.

Having planed all edges of the plywood straight, cut off a strip 1 $\frac{1}{2}$ ins. wide. The ragged edges of both pieces are trimmed up to make a neat join, after which two ornamental brass hinges (No. 5379) are screwed over same about 2 ins. from the ends. The foremost corners of the table should be rounded, a penny making a template.

Attach the strip to the bars as seen at Fig. 3. The wire supports are bent to shape, there being two methods. One is to just hook a support to a screw-eye (see inset at Fig. 3) and the other is hooking it to two screw-eyes, this having the advantage of keeping the supports steady.

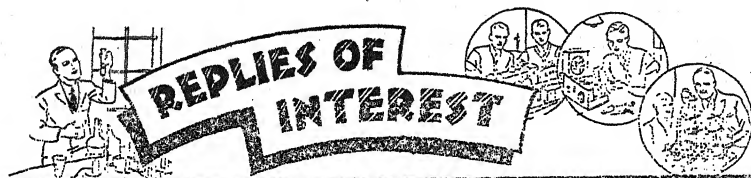
If you prefer the latter method, the screw-eyes must be inserted to the table before slipping in the shaped rod and turning up the end as shown. The material used in making the supports should be $\frac{1}{8}$ in. solid mild steel rod. It is advisable to slightly round the free ends with a file. It wouldn't be a bad idea to file the edges of the cleeks if they are square and sharp.

Perhaps you are wondering at three holes being made in the cleeks? Extra holes have been provided owing to the tilt of some car seats and enable necessary adjustment.

To prevent the table rattling against the cleeks, two plywood stops (see Fig. 4) are screwed to the cross strip. As a finish, the cleeks and supports should be enamelled black, using a good stove or bicycle enamel. The woodwork looks well if french polished a dark mahogany or walnut colour.

MATERIALS REQUIRED

1 piece birch plywood, 24 ins. by 12 ins. by $\frac{3}{8}$ in. thick.
2 pieces mild bar, 33 ins. by $\frac{3}{8}$ in. by $\frac{1}{8}$ in. thick.
2 wire rods, 12 ins. by $\frac{1}{8}$ in. diameter.
2 ornamental hinges (No. 5379).
Several brass screw-eyes, (Mild steel bar and rod obtainable locally).



Brass Book Ends

SOME time ago, in one of your issues, I saw an article on how to make decorative brass plates for book ends. I am unable, however, to find this article among my copies. Could you send me the date?—(E.H.)

THE article on making book-ends which I think you have in mind, appeared in our issue, dated August 31st, 1935.

Plant Frame Heating

COULD you suggest a small heating apparatus for a plant frame size 3 ft. square?—(D.P.)

RAISE the frame on a brick foundation, leaving space for the lamp. Make the frame of wood but line bottom with zinc. A grooved wooden bar is in the centre to allow of sliding panes of glass being fixed. Have wooden knobs at front to keep glass from slipping and raise the back of frame a few inches so that moisture will run off. Have frame facing the sun. When frame is completed, fill bottom of it to the depth of 9 ins., with cocoa-nut fibre, and keep this moist. Into this plunge the pots or boxes with seedlings,

so they may have a genial moist heat. If the pots, pans or boxes are plunged in the fibre up to their rims, little watering will be necessary.

Gunpowder

I WOULD like to know what "F" Gunpowder means. I would also like to know the best kind of glue to use when making fireworks.—(W.R.F.)

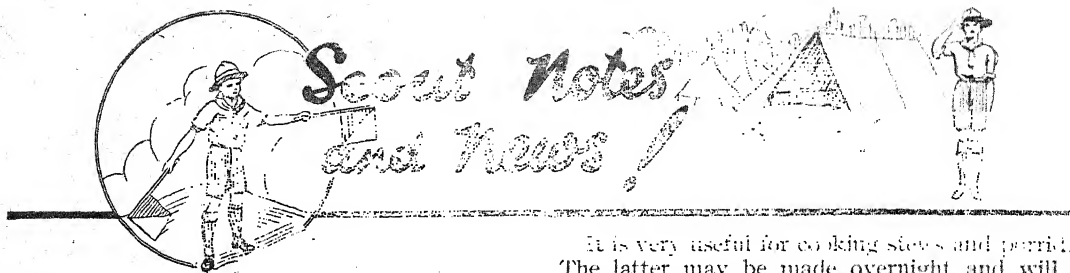
THE name "F" gunpowder is given to a particular grade, namely that of a medium grain. Any kind of glue at 2d. or 3d., is suitable for sticking the cases, etc. when making fireworks. Say ordinary fish glue.

A Spot Light

COULD you tell me how to make a spotlight from a car head lamp?—(G.M.)

THE headlamp referred to can be converted to a spot light for mains operation (if A.C.) by means of a small mains transformer, the primary being wound for the supply voltage (probably 230 to 250 volts). The secondary should be either 6 or 12 volts according to choice of lamp bulb. If the head lamp is of American

make, the bulb is probably 6 volt, but 12 volt bulbs can be had from most motor agents and garages. You will find by trial that the current supplied to one filament gives a bright light and a straight beam. This is the contact to use (the return is via the metal part of the lamp). The second filament throws the light sideways and is generally not so bright. You could use a change-over switch and leave a straight beam for spot lighting, and a spread beam for soft floodlighting if desired. The transformer must be able to deliver sufficient amperes at the required voltage—usually 6 amps. at 6 volts or 3 amps. at 12 volts. Secondhand transformers as used in wireless mains units for charging purposes might do, if of the requisite power output, or you could get a Ferranti or a Heybeard model railway transformer, which gives an output of about 12 volts at 2 $\frac{1}{2}$ to 3 amps. In any case, a regulating resistance capable of continuously carrying the required current should be used in the circuit to ensure a correct voltage, otherwise the lamps will quickly burn out. A valve of 0 to 12 ohms with a 6 amp. carrying capacity will be about right.



More Camping Hints

ONCE more I intend to give you a page of camping hints in the hope they will be of use to you and help to improve your general standard of camping. For you must remember that Scouts are supposed to be trained in the art of camping, and are looked up to as models in this romantic life.

Never pack your billy can or dixie in a dirty condition, when a few fine ashes and a damp rag, together with a little elbow grease, will make them shine as new. A little grease inside, also, will preserve them for another time.

Tent pole joints often swell with the wet and are a trouble to loosen. A little blacklead enables you to polish the joints so they will easily undo under any conditions.

Fat used for frying should be smoking hot before the article to be cooked is placed in it. This ensures that the pores are immediately sealed and grease cannot penetrate the food and make it unpalatable or too rich.

Care of Tents

SO many tents are of the patrol type nowadays that it is an easy matter to dry them after camp if necessary. It is imperative, however, not to pack them away for the winter while they are wet or they will rot. Make sure, too, that the guy ropes are thoroughly dry.

Never pack your tent and pegs loosely together or tearing will result. Pack the tent first and then put the pegs in another bag or wrap them up in a piece of sacking before putting them with the tent.

Adjust the guy ropes last thing at night in case of rain which will tighten them and the least damage will be to drag the pegs from the ground and possibly will split the tent. Keep the tent door wide open day and night, weather permitting. I have seen many a good tent ruined by Tommy Tenderfoot falling over the door into the tent.

Brailings should be rolled up all day and the tent should be empty. Remember a sleeping tent is not a dining room.

The Hay Box

IFTEEN think that not enough use is made of hay box cooking, especially where wood is scarce. It is simple to make and will cook or keep food hot for a very long time. Here is how to do it.

Get a large box somewhat deeper than your dixie and pad it well with newspapers. Then fill it with hay and afterwards scoop out a nest the same shape as the dixie.

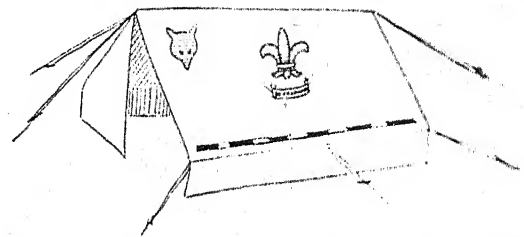
It is very useful for cooking stews and perribidge. The latter may be made overnight and will be ready for breakfast next morning. Bring the contents of your dixie to the boil over a brisk fire and then cover with a tight fitting lid. Remove quickly to the hay box and cover with several thicknesses of newspaper and hay and put the lid on the box again.

A meal may be prepared at breakfast time and after a morning's Scouting it will be ready for dinner immediately you return to camp. Try one or two this year, I can recommend them.

Your Patrol Tent

EVERY patrol tent should be the pride of its owners and bear some distinctive marking to show to whom it belongs and perhaps the best way to do this is to stencil the patrol emblem on while a real Scouty border will add to the attractiveness of your tent. All "Hobbies" scouts can do this by cutting plywood stencils of their patrol animal or bird and painting it on the tent.

Take the tent down and lay a flat piece of wood under the canvas which is to be painted, being



careful to see you have only one thickness. Then place the stencil over it and paint the required colour. Do not use much paint at the edges or it will not give a clean line and if the canvas is already coloured give it a coat of white first.

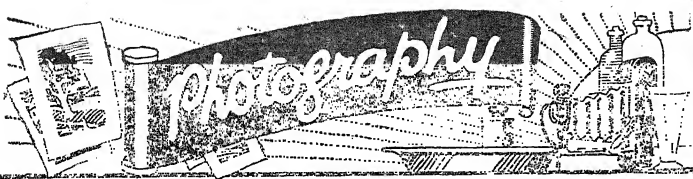
Here is a suggested design which you can alter to suit your purpose.

Camp Good Turn

NOTHING enhances our reputation as good campers as our tidyness in camping and a good turn to the landowner. Be sure you set aside some part of the camp week to do a good turn to the farmer on whose land you are camping. You will be surprised at the many interesting little jobs he can find you and any act of kindness in repayment for his allowing you to camp will be amply repaid.

One good turn you can do without asking his permission is to clean up your camp site.

The Skipper



HOW TO TAKE COMPETITION PICTURES

THE amateur photographer who makes a habit of preparing good prints and entering them for various competitions is bound to become a really first-class worker. It may take him a long time to reach the stage when he can walk away with a first prize, but if he will persevere without becoming disheartened he will certainly improve his work and be more and more satisfied with his pictures.

Some of you might ask why should entering a competition be the means of improving one's work? Well to start with, you would naturally pick out what you consider to be your best negative and from this you will proceed to make the best possible print, choosing the paper that will in your judgment give the most pictorial result and it is possible you will make three or four prints before you get to a final decision.

One of our most famous photographic artists made no less than 46 prints of an architectural subject before he succeeded in obtaining the effect he was anxious to get. But what a gem that was!

Select a Suitable Print

This is one of the reasons why a person who does not do his or her own developing and printing can never produce such good work as the individual who does. It is only by doing things that we can get practical knowledge.

If you wish to succeed in competitions you must not leave the job to the chemist to do for you. In nineteen times out of every twenty he is not the least bit interested in your snaps and does not care whether you enter or not.

Having tried to explain why you should enter, let us try to reason out what type of work stands a chance and how to proceed to get such results.

Let us start with an open class; that is one where subject is not specified and competitors are allowed to send in anything they like. There are, at this time of the year, quite a number of this type. Frequently they are termed Holiday Competitions or some title meaning the same.

Three Main Points

There are three principal features which the judge will have in his mind when looking through such. These are Composition, Originality and Technique and if you just consider these three points for a few minutes you will realise what a tremendous lot can be crowded under those headings.

A picture can be a snap, but all snaps are not pictures. This is because the majority of snaps are merely the outcome of pressing a trigger and chancing the rest. If the result should happen

to turn out right well then you have been lucky.

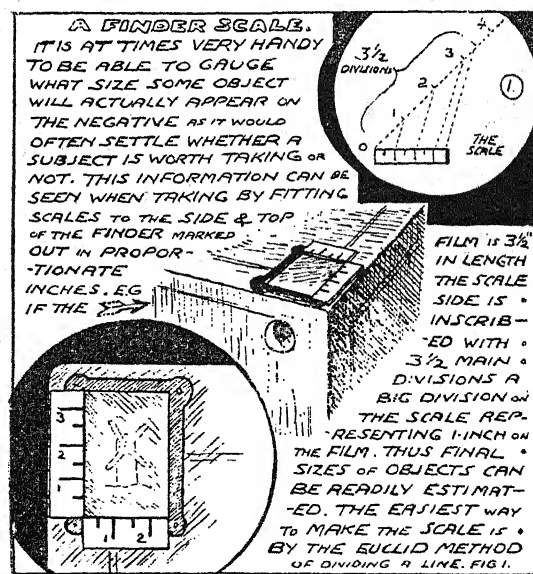
But a picture is the result usually of some careful thought and consideration of the subject before attempting to touch the trigger. You have noted the light and what is in the background. You have moved this way and that to secure a better balance in the important features. Calculated the exposure required to give you the correct rendering of the light and tone values and perhaps you have waited until a figure has appeared at a certain point in the scene. All this thought is noted by the judge in the results before him.

Introduce Originality

If you can introduce originality into your entry you are sure to be awarded quite a number of marks. It is a feature which every judge looks for and is very ready to acknowledge. If you can spare the time to look round a photographic exhibition you will see how much striving there is for original ideas and how few get there.

It is not easy to give any actual lines to adopt in order to encourage originality in your work, possibly the only advice that can be offered is to avoid following the 'stereotype' and develop as much as possible individuality in all your work.

OUR PHOTOGRAPHIC PICTURE PANEL



* Now just exactly what is meant by Technique? Well it is a word that is quite often seen and heard in photographic circles and it is largely to do with the quality of the work put into the picture rather than the picture itself. It has to do with the exposure, developing, printing and, yes, even the mounting and the finishing of the picture.

This may not be quite the true meaning of the word but it is near enough and it is the meaning which many amateurs have for it and there is quite a lot of thought given by the judge to this side of the work.

Some folks are surprisingly careless with their prints when they have to mount them and many

a good entry otherwise has lost marks because it has not been trimmed accurately. It may have had quite a lot of paste on its face, or some finger-marks have attracted too much attention. Again it is surprising how often the wrong surface or grade of paper is used.

This then will give the intending competitor a little idea what a judge is going to look for in his print and it also shows to a certain extent what the judge must not find. If you have these few points in mind and enter some of the many competitions which are being run this year you will find that the assertion made in the opening paragraph of this article is perfectly true and that your work will certainly be improved.

JUNE COMPETITION WINNERS

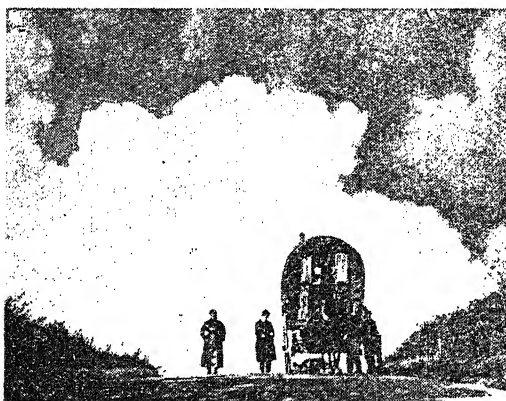
FOR such a 'big' subject as "In the Country" there should have been more entries but the general quality of those received was very good. Each of the competitors kept very well to the subject, with the result that most phases of country life were represented.

There was one fault which showed itself in many

The prize winners were not the only good prints. "The Peewit's Nest" by Mr. Evernden, was very good, as also was Miss Whitcombe's "Lumber Team" which the latter was spoilt by the man in the background. He is in white and so caught the eye too much.

In the Junior Section there was some first class work and the seniors will have to look to their laurels when these folks turn 16!

First Prize, Miss Hamner, who is too modest to name her entry so we will call it "A Pastoral." The composition is excellent, the light patch on which the cattle are standing gives balance and in fact it is difficult to find anything wrong. Second Prize was a farmyard scene entered by L. Morley.



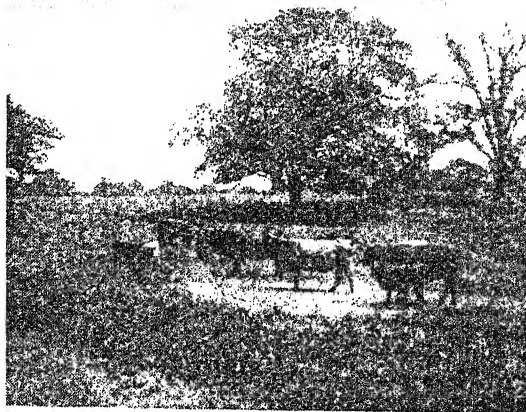
1st Prize "Out on the Open Road"

of the entries and it should be noted by all who intend to compete in the future. Figures can make or mar a picture, and it more often mars than makes if the figure is posing for his or her portrait.

In the entries we have portraits of a person on horse back, a lady on a footbridge, friends in the field, etc. If you are taking landscapes then ask your friend not to look at the camera.

In the senior section the first prize goes to Mr. D. Wilson's "Out on the Open Road." It is a very nice piece, full of the spirit of the country and the only adverse criticism that one can make is that there is perhaps a little too much white cloud. It is somewhat overpowering.

The second prize Mr. J. Dempster's "Proud Motherhood." This would have had first place if the print was better technically but the subject and composition are good.



1st Junior—"A Pastoral"

This was full of interest but it looked as though a much better print could be obtained from the negative.

Others in this class which were quite good were "The Harvesters" by E. G. Tosturn, "The Coast View" by S. G. Antill and "The Shoeing Forge" by P. Newton. This latter would have secured a prize if the horses' hind legs had not been hidden by the smith.

HOW TO MAKE A MODEL SILK WINDER

THE model silk winder shown in the drawings is a replica of one made by the writer, which enabled a lady whose hobby was breeding silkworms, to carry this hobby further than usual, by winding the silk off the cocoons instead of as is usual, stopping at the cocoon stage, the result being a bunch of shimmering silk instead of merely waste cocoons.

In the drawings we show the two side elevations (Figs. 1 and 2) the two end elevations (Figs. 3 and 4), and the plan (Fig. 5).

The whole is built up on the baseboard, which is 18ins. long by 9ins. wide, by 1½ins. thick, and as the drawings are made to scale, all other measurements can be taken from this.

The Main Wheel

The main wheel on which the silk is actually wound off, is mounted in the two standards, A, and is formed by the centre piece B (the shape of which is shown plainly in Figs. 3 and 5), which runs in the standards. The circular piece C, is screwed to the recessed part of B, and to this circular disc are screwed the eight strips D. These

grooved wheel (M). This is the driving power for this part of the model.

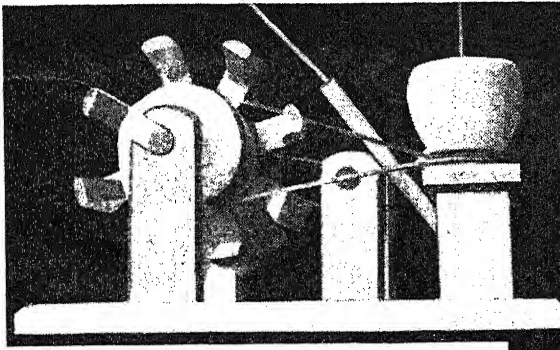
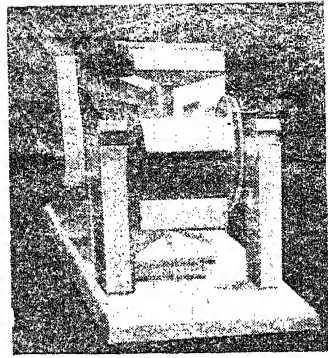
In forming the upright spindle part of the model, the end which enters the baseboard should rest on the bottom of the hole made for it, thus preventing friction on the shoulder and the wheel M.

So far, we have not dealt with the driving power for the container, which consists of the wheel (N), mounted on the spindle (B). On fixing this, a fine gut band can be passed round it, twisting it and then passing it round the wheel (M). So on turning the handle (G), the container and the main wheel will revolve, the former some three times as fast as the latter.

To Prevent Sticking

The machine would wind off the silk as it is, but it would stick together on the large wheel, so it is necessary to prevent this happening. The arrangement in the middle of the baseboard is designed to do this.

The two standards (O), are fixed in the baseboard, and are pierced near the upper ends to take the cylinder (P). One end of the cylinder is carried through the standard to carry the small grooved wheel (R), this wheel being parallel with

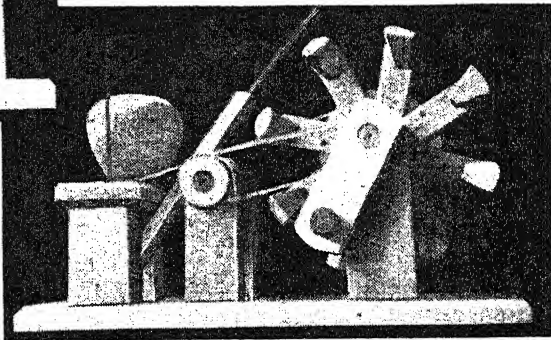


Two views of the completed machine

carry the cross pieces which form the periphery of the wheel.

The centre piece of the wheel is continued through the one standard to carry the small wheel P, so forming the means of driving other parts of the machine. At the same side the centre piece is carried yet another step further to take the driving handle, G, this latter being fitted with a small knob H for convenience in turning the wheel.

Near the other end of the baseboard are fixed another pair of standards (I), these carry the cross-piece (J), which is pierced near one side to take the upright spindle (K). The baseboard is pierced to correspond. This spindle is turned in one piece with the container (L), and immediately below the latter should be formed the small



the corresponding wheel (F). On a band being passed round these two wheels, the cylinder (P) revolves with the rest.

The last-mentioned cylinder (P) is grooved with a spiral trench as shown in Fig. 3, and this trench must be made very truly and carefully, finishing it with a square section as shown.

The strip of wood (S) is fitted to the baseboard, and is pivoted with a single screw, so it will move

freely from side to side. It must be so that the upper end rests just firmly on the cylinder (P). A hardwood pin is inserted in the strip and fits in the spiral trench closely but not tightly, as in Figs. 1 and 2.

The last-mentioned strip must reach well above the cylinder, and in the end two bright steel wires are inserted, as in Fig. 7. Steel knitting needles do well for these wires, or bone needles are a good substitute, and will not rust.

The Container

The container must be turned so the upper part overhangs by about $\frac{1}{2}$ in., or if preferred, it may be turned so that a lid can be fitted. In the latter case a small smooth hole will be needed in the exact centre. A bent wire must also be fixed to the platform (J), as at (T), and this wire is bent so the upper end finishes over the centre of the container, and slightly above it.

The end of the wire should be flattened and drilled with $\frac{1}{16}$ in. diameter hole, this being made very smooth and even, so the extremely fine threads of silk will slide over it without catching up.

The wheel (U) is fixed to guide the driving band to the driving wheel, the correct place being found by experiment. A block is screwed to the standard to take it.

Now to use the machine. The three driving bands being in position on the respective wheels, the container can be filled half full of warm water, and the cocoons placed in it. Put as many as are well covered, and having preferably been soaked for a short time before. The ends of the silk on six of the cocoons are found, twisted together slightly, passed through the hole in the bent wire (T), passed on between the wires in end of (S), and then on to the large wheel, to which they are fixed.

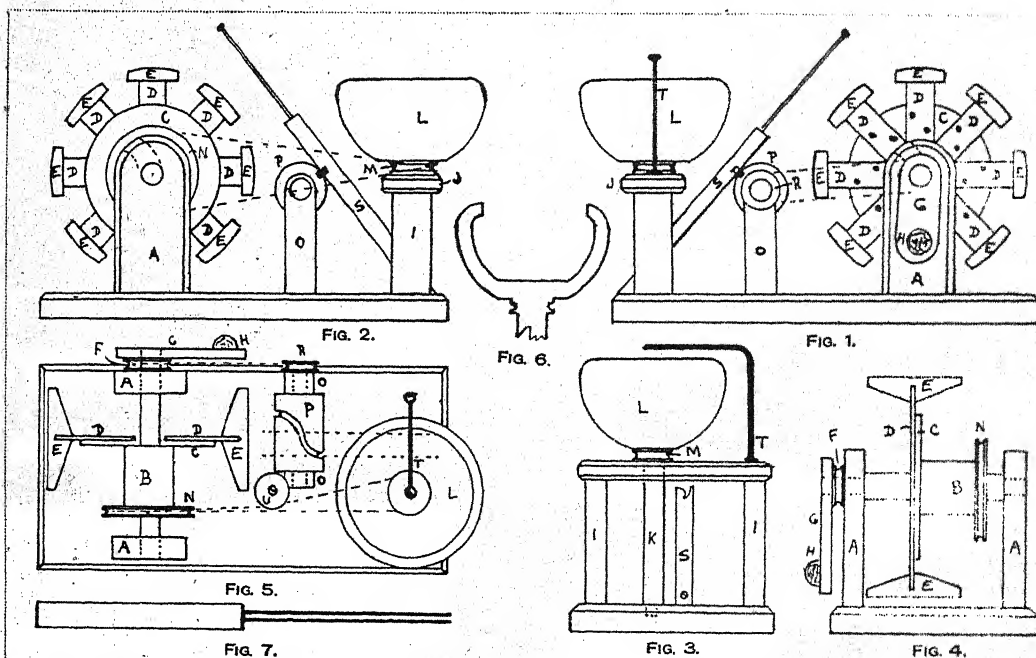
Starting to Operate

On starting the machine by turning the handle (G), the wheel revolves, taking up the twisted silk. At the same time the container spins round at a good pace, twisting the strands of silk into one, and the cylinder (P) revolves, causing the rod with the wires to oscillate to and fro. This causes the threads to cross and recross each other on the wheel, and prevents them from sticking together.

A sharp look-out must be kept for broken threads, which must at once be twisted together, and the same applies to exhausted cocoons. As soon as one gives out another must be connected up.

The greater part of the machine can be made on the lathe, the various standards can be attached to the base by mortise and tenon, by dowelling, or

(Continued on page 450)



EXPLANATION OF DRAWINGS

- Fig. 1. Side elevation of silk winder (right).
Fig. 2. Side elevation of silk winder (left).
Fig. 3. End elevation of silk winder (back).
Fig. 4. End elevation of silk winder (front).
Fig. 5. Plan of silk winder.
Fig. 6. Section of container.
Fig. 7. Vibrator showing guide wires.

LETTER REFERENCES

- A. Standards carrying main wheel.
B. Centre shaft of wheel.
C. Disc to carry arms.
D. Arms screwed to C.
E. Shaped pieces forming periphery of wheel.
F. Small driving pulley.
G. Driving handle.
H. Knob on driving handle.
I. Standards carrying platform J.

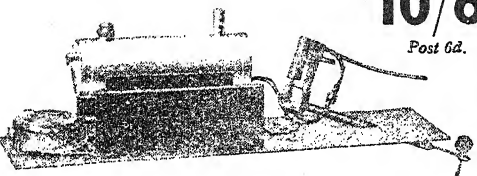
- J. Platform forming bearing for container shaft.
K. Container shaft.
L. Container.
M. Driving pulley on container shaft.
N. Driving wheel for vibrator.
O. Standards to carry vibrator.
P. Vibrator.
R. Pulley driving vibrator.
S. Oscillating part of vibrator.
T. Guide wire for silk strands.
U. Guide pulley for twisted band.

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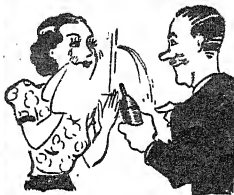
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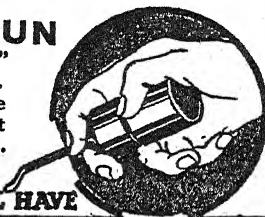
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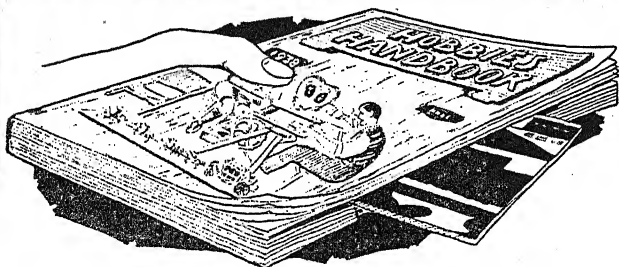


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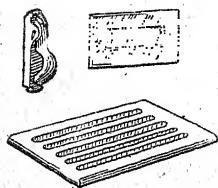
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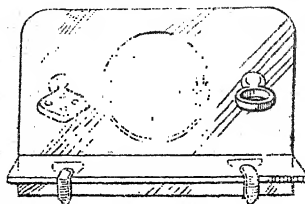
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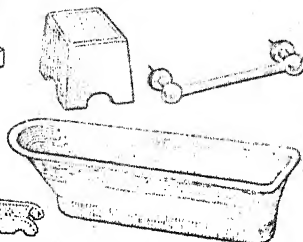
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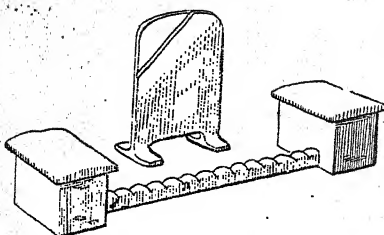
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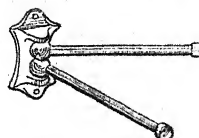


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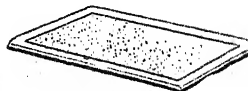


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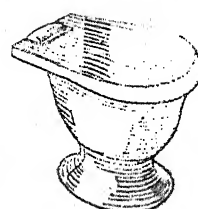
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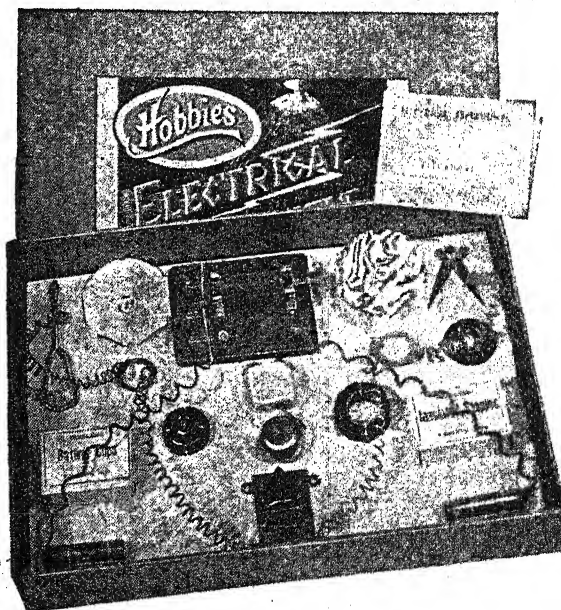
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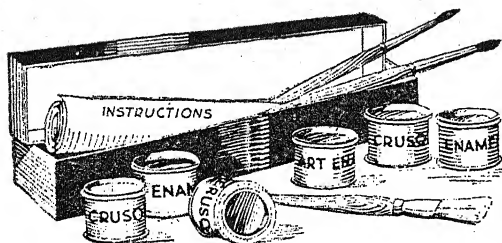
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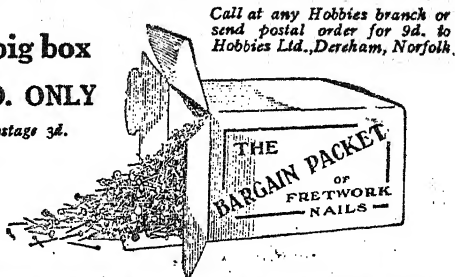
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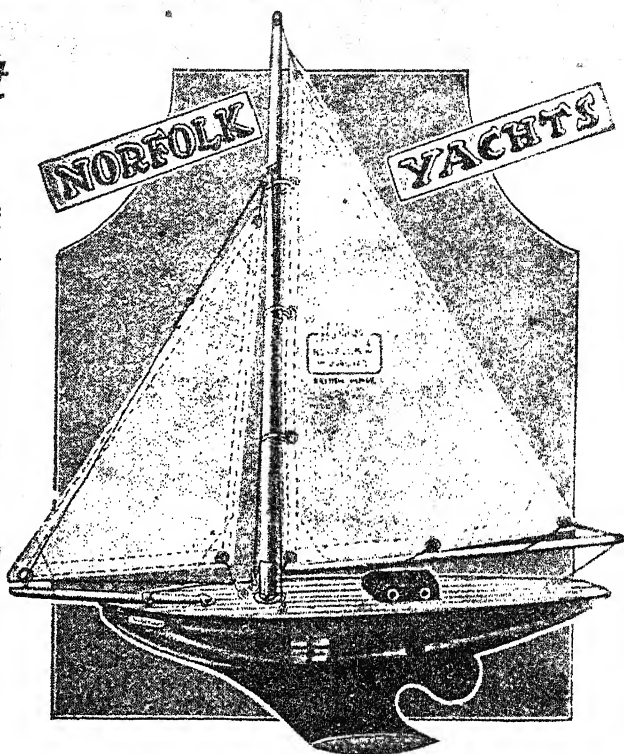
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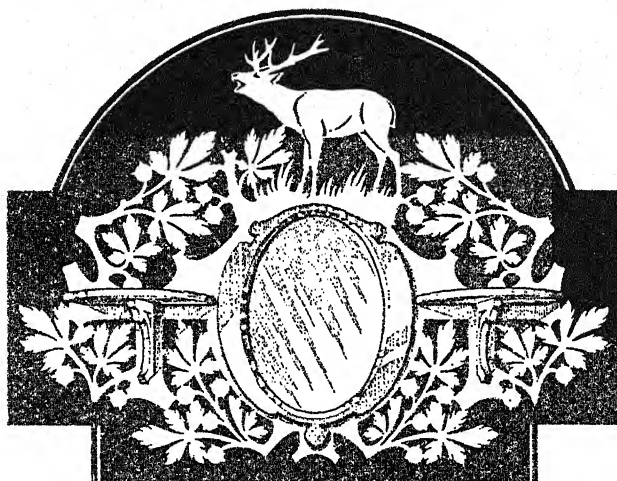
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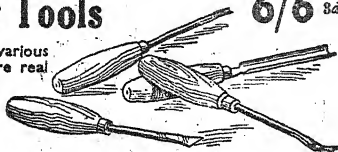
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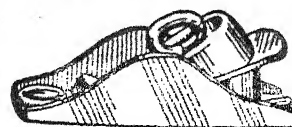


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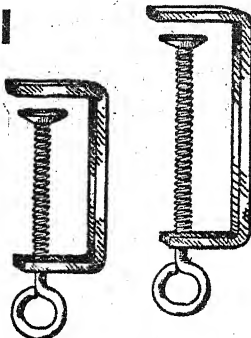
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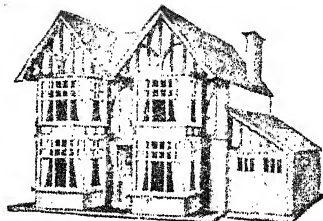
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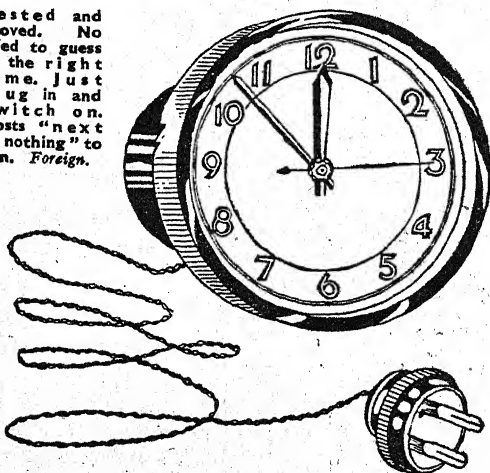
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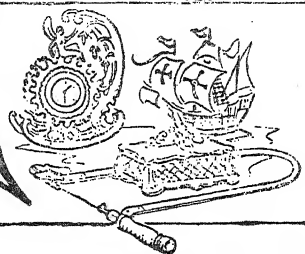
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Hobbies

WEEKLY



April 16th. 1938

Vol. 86. No. 2217

"THE STAG" PHOTO FRAME

THE piece of work illustrated herewith, patterns for which are provided on this week's design sheet, forms one of those pleasing jobs which can be done in a reasonably short amount of time and without a great deal of trouble.

It is quite a plain straightforward piece of work and the beginner can tackle it with confidence of executing a good job. It is an excellent article incorporating a pleasing design, the whole thing being surmounted by a replica of the stag in full cry. But beyond being good to look at, it is also a useful piece of work because the centre provides an opening for a postcard or any similar picture or photograph, whilst on each side is a small shelf to take an ornamental vase.

Patterns First

The whole thing, therefore, only demands a reasonable amount of work, and certainly not sufficient to tire any one. The designs, of course, as usual, are shown full size, and can be pasted down to the wood so we can start right away cutting out.

Remember, however, not to attempt to start the cutting until the paste of the design patterns is quite dry. If you do you will find either the pattern line gets obliterated with the sawdust sticking to the damp paper, or else the pattern itself will tear up and so spoil the whole thing.

If, however, you paste the patterns down carefully and do not use too much paste, the first will probably be dry by the time you have completed the last.

It is, remember, always advisable to complete the whole

of the pasting down of the patterns first. Odd pieces of paper, you know, have a peculiar habit of getting lost or thrown away with other pieces. You can so easily cut out the patterns from the paper design, then get called away on some other job, and come back and throw some of the vital pieces away.

Notes on Pasting

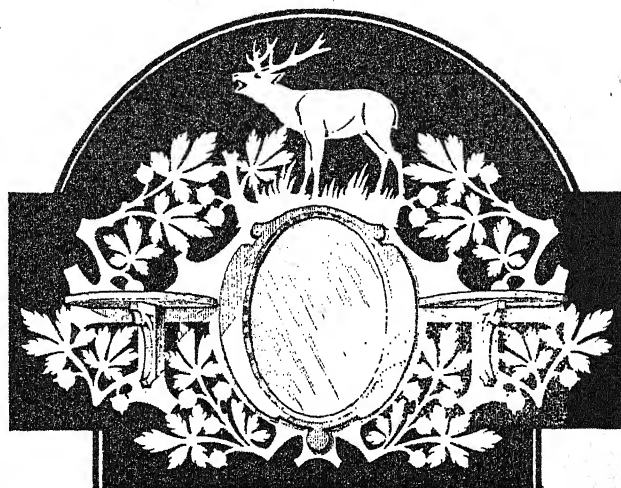
The best plan, therefore, is to cut out and paste down the whole lot before any of them get lost.

See, too, that there are no air bubbles or creases in the pattern. A good plan to prevent this is to put the paste on the wood itself to lay one edge of the pattern down, then gradually let the other fall naturally into place on the wood. Use a clean piece of cloth to get the whole thing flat, and do not rub too hard or you will tear the paper or put it out of shape.

In the cutting itself there is little that need be mentioned in the ordinary way, but as usual there are one or two points which deserve more attention than the rest of the work.

The actual rotation in which the boards are to be cut is immaterial. A good plan, however, is to get out the back first, because all the other parts are built on to that. The principal point here is to get the openings of the mortises right at A and B, because if you do not, the shelves and supports will be loose.

Remember to cut on the inside of the line rather than outside, and get the four corners of each a correct right-angle. Then cut out the interior small frets, leaving the stag features and the opening for the glass until last. You can,



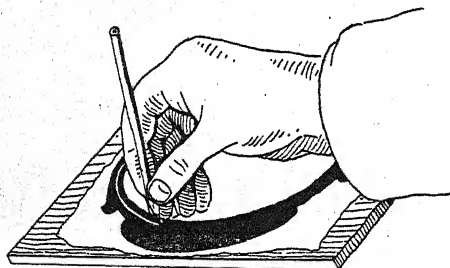
of course, cut round the outer edge of the pattern if you wish. Or at least cut away any large amount of waste wood to reduce the weight of the board in turning.

In any case, we would advise leaving the outline of the stag until later, because otherwise the antlers or the head itself might get broken away. Lay the glass in place before cutting round the actual outline of it, because then we shall be sure of it fitting.

The Stag

The stag portion will require particular attention to get the features right. The long thin lines must be cut with a very fine fretsaw, the drill hole being made at the widest point in order not to show in the actual cutting line.

Nothing looks worse than to see a thin line with a drill hole in the middle of it to spoil its shapeliness. The antlers, too, must be cut very carefully in order they may not get broken.



How to mark out the distance to chamfer

If you do unfortunately break the part beyond repair, then do not waste the whole of the rest of the work, but cut the picture of the stag right away. You will still have quite a pleasing frame.

A narrow rim overlay holds the glass in place at the front, and in order to reduce the apparent thickness of the wood, the inner edge should be chamfered to an angle.

This chamfering must be done carefully with a fairly narrow file 6 or 8 ins. long. Do it before cutting the actual outline of the wood because you will then have a larger piece to handle and so reduce the likelihood of the work becoming broken.

Notice, by the way, that the grain of this piece runs up and down. In chamfering, lay the work on to an ordinary cutting table so you can use the file through the V-opening. You thus have the work laid on the two projecting pieces of the table and again the risk of damage is reduced.

The chamfer will extend about $\frac{1}{4}$ in. inwards on the upper surface, but a good plan is to run the finger round, marking it with a pencil lightly.

The way to hold the pencil is shown in the attached drawing, thus when the filing is being done, you have a definite line to work to. Be sure to keep the file at the correct angle the whole time.

The Shelves

Now we can turn our attention to the shelves. Cut out each of the semi-circular portions then their little fancy brackets which go beneath them. Both have a tenon to fit into the back and these should be tested before being cut to ensure the length is correct with the portion already got out.

MATERIAL SUPPLIED

Fretwood.—For making this design we supply a parcel of selected whitewood. 1/10, post free 2/3
Fittings.—Glass No. 5840, 3d.; Hangers 1d.
A complete parcel will be sent for 2/6, post paid.

The shelf itself should be fitted first, then the bracket portion put up underneath it. If the bracket is cut too high it will force the shelf up.

See where the bracket edge is binding on the underside of the shelf, and take away a thin shaving to overcome the trouble. The shelf must not only be glued firmly to the back, but should also be fixed to its little support bracket. That part, too, must be glued into the back by means of its tenon.

Applying Glue

In applying the glue for these parts, put it round the inside edge of the mortise—the opening in the back—so that when the tenon is pushed into it, it squeezes the glue through then any which is not required is pushed out at the back and can be wiped away. If you put it on the tenon itself, the glue will squeeze out at the front and so might show an unsightly edge.

The glass, of course, fits behind the overlay glued to the front, then the picture is put behind that before a final backing piece is added. This backing

piece can be the oval of wood which was cut out, or a thinner board or even a piece of cardboard can be put in to fill up the depth of the wood of the back itself. The whole lot should be held in place by little photo clips or a piece of brown paper pasted over.

The tool clips only cost 1d. a dozen (or 2½d. by post) and are easily affixed with a small fretnail. They thus allow the picture to be taken out when required.

CONTENTS

GIFT DESIGN—"Stag" Photo Frame

"Stag" Photo Frame	49
Electric Shaving Mirror	51
Scout Crossword	52
Mechanical Duck Easter Egg	53
Hiking at Easter	54
Funny Face Ring Toss	55
Home Chemistry for Beginners	56
Handy Writing Desk	57
Simple Corner Shelves	58
Fretwork Bird Bracket and Mirror	60
Trailer Caravan	63
Garden Wheelbarrow	66
Picture Puzzle (No. 4)	67
Hints and Tips	68
Editor's Notes	69
Mountains on Stamps	71

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MECHANICAL DUCKS EASTER NOVELTY

WHEN this little toy is pulled along, the ducks appear to swim around in a circle, one following the other as most ducks do. The mechanism is quite straightforward and simple to erect. The motion is caused by a rubber-edged wheel or disc working between two side wheels.

Plywood should be used throughout in making the toy. The nature or class of the wood is of no significance as the item will be coloured in bright enamels.

Of course, plain fretwood can be used, but this will not stand up to the rough abuse so well as plywood. Poor old toy, it will get plenty of kicks in the course of its life!

Details of Parts

The number of parts and the thickness of the material from which they must be cut is provided at Figs. 1, 2, 3 and 4. The axle holes in the supports are $\frac{3}{4}$ in. diam. You will also need two discs $1\frac{1}{2}$ in. diam. by $\frac{1}{4}$ in. thick, and another $1\frac{1}{2}$ ins. across by the same thickness. Yet another disc is $1\frac{1}{2}$ in. diam. by $\frac{1}{4}$ in. thick.

When all parts have been cut out, glue two dowel axles ($2\frac{1}{2}$ ins. by $\frac{3}{4}$ in.) flush with the sides of the supports which are then glued to the mortises in the chassis board. Four $1\frac{1}{2}$ in. diam. wheels are cut from $\frac{3}{4}$ in. or $\frac{1}{2}$ in. wood which are washed and screwed to the axles.

A $1\frac{1}{2}$ in. disc is glued to the underside of the chassis as indicated by the dotted lines. The other $1\frac{1}{2}$ in. disc is glued to the bottom of the

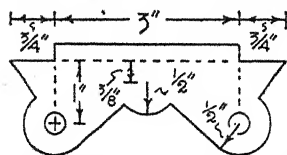


Fig. 1—Axle supports from $\frac{1}{4}$ in. plywood

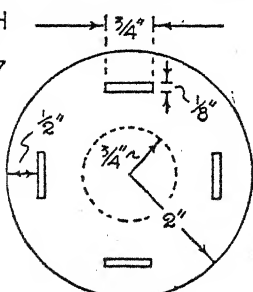


Fig. 3—Revolving platform in $\frac{1}{4}$ in. wood

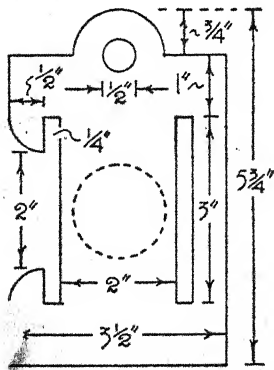


Fig. 2—The $\frac{1}{4}$ in. thick chassis board

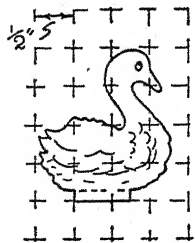
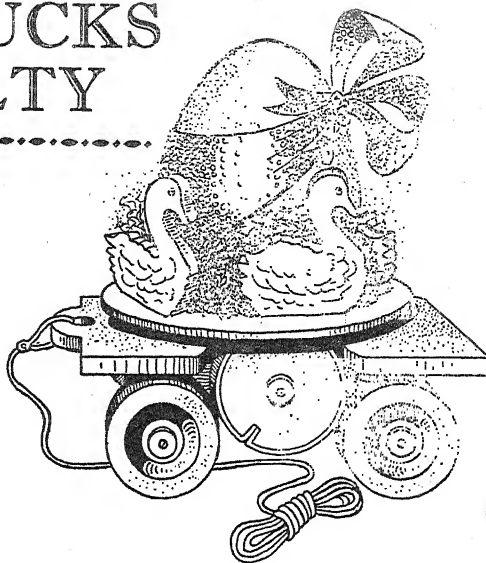


Fig. 4—The duck outline in $\frac{1}{4}$ in. plywood



platform. The ducks could be affixed in place, too, at this juncture.

The Rubber-edged Wheel

The $1\frac{1}{2}$ in. diam. disc is glued to the centre of the $1\frac{1}{2}$ in. diam. wheel disc. A suitable cut should be made in the wheel for the ends of the rubber strip. This rubber is cut from an old motor inner tube. Fit it around temporarily before finally gluing in place. Use rubber solution or a powerful tube glue like "Certofix."

Drill a true-centred hole in the wheel a good deal bigger than the roundhead screw you will use to attach it to the support in loose contact with the circumference of the turned wheels.

The weight of the revolving platform on the rubber-edged wheel will bring it into "free" contact with the others. That is imperative to good working; the hole in the disc, remember, must be large and the rubber must not be tight between the turned wheels through putting the screw in the support too far downwards.

Colouring

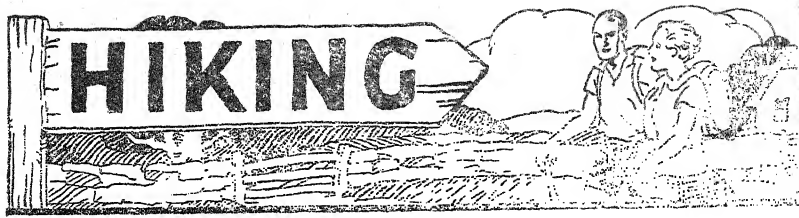
When the item works to satisfaction—with the platform screwed loosely to the chassis to rest on the rubber-edged wheel, all movable parts are removed to facilitate painting. The ducks should be painted white, streaked with light brown to indicate feathers, with the beaks orange and platform a dark blue or green to imitate pond water.

Chocolate-coloured paper trimmings should be used in packing the egg. A silk bow sets off the novelty nicely, and to keep the egg in place, $\frac{1}{2}$ in. wide silken bows are tied under the platform.

MATERIALS REQUIRED

Birch Plywood.

- 2 support pieces, 5 ins. by 2 ins. by $\frac{1}{4}$ in. thick.
- 1 platform piece, 4 ins. by 4 ins. by $\frac{1}{4}$ in. thick.
- 1 chassis piece, 6 ins. by 3 1/2 ins. by $\frac{1}{4}$ in. thick.
- 1 statuette piece, 6 ins. by 6 ins. by $\frac{1}{4}$ in. thick.
- 1 disc piece, 5 ins. by 5 ins. by $\frac{1}{4}$ in. thick.
- 4 wooden wheels, 1 1/2 ins. diam., with suitable screws and washers.



HINTS FOR EASTER TOURS

SEEK the sun at Easter and you will enjoy your holiday. The best and cheapest way to do it is to go on foot.

In the first place, set out properly equipped. An easy-fitting rucksack, with broad webbing straps, containing spare socks or stockings, pyjamas, pair of thin slippers, brush and comb, toothbrush and paste, shaving tackle, first-aid outfit (small), maps, and, if you are intending to tour in wild, remote regions, a compass and a whistle.

That's all you actually need, but if making a long trip in the summer, you will also require a change of underclothing. Another essential when Easter hiking is a light waterproof "mac," or a cape, remembering that April is a month associated with showers as well as flowers.

What to Wear

What shall I wear? That is another question the tyro may ask. Many fellows prefer shorts, and for "straightforward" walking (not mountain climbing) shorts allow such perfect freedom that they beat all other kinds of nether garments.

A khaki hiking shirt with open collar, in fine drill or brown cotton gabardine, will be found both practical and comfy. Plaid shirts can also be worn by those who fancy a bit of colour, with either button or "zipp" front.

The jacket should have good big pockets with protective flaps. A "hare" pocket inside is always handy. Hiker's jackets are now obtainable with the "zipp" fastener. All jackets should be rainproof and windproof.

Do not overlook the importance of your footwear. Boots are the best for prolonged tramping; they should be stout-soled, waterproof, and easy-fitting, but not "slobby."

Inner footwear should consist of woollen socks or stockings, whichever you prefer—thin socks are bad for your feet. Socks should be well-fitting, so that there is no loose material to "ruck" up when you walk.

Feet Attention

If you are subject to tender feet give them a good soaking in salt and water nightly before your holiday. Then, before setting out, sprinkle the inside of your socks with a little powdered starch or one of the useful preparations sold at the chemists. If, at the end of the first day's tramp you find that tender spots are developing on heels or toes, rub them with vaseline or a little boric ointment.

It is an excellent plan to wash your feet at the end of the day's march with hot water and plenty

of soap. Then soak for a few minutes in cold water, and put on a different pair of socks to those you have worn when walking.

Where to Go

"Where shall I go?" is another question asked by the beginner. Much depends on the district where you live. Perhaps you are lucky enough to dwell in or near to a popular and beautiful part of the country; perhaps you are miles away from the nearest green field. But wherever you are, the desire to see other parts will prompt you to go hiking at any and every opportunity.

Britain is a lovely spot, and we have no difficulty in making up our minds as to the desirable regions specially appealing to hikers. Derbyshire is central for many places such as Manchester and Sheffield, Derby and Nottingham. And you can't go wrong in the Peak Country, which is a favourite tramping ground.

Dales or Hills

By the banks of the river Dove—surely England's most lovely stream—you can walk for miles, with hills bordering on mountains all around. The Wye Valley from Rowsley to Buxton is also wonderful, whilst the Derwent is another river that flows through picturesque scenery.

Those who hanker for something wilder than the Derbyshire Dales can seek the Derbyshire hills, and roam over wild Kinder Scout and the moors around Castleton.

Lakes and Broads

The Lake District is another famous rendezvous; the whole country of the lakes is simply gorgeous, but keep off the beaten tracks unless you like to go in crowds.

As a contrast to these hilly parts we have Norfolk and its charming Broads, with lovely scenery of a pastoral type; old windmills and yachts on the waterways add to the beauty of the scenes you meet.

South and West

Wiltshire and Hampshire also afford much fine tramping country possessing a wide range of charms. Dorset is associated with Thomas Hardy; the tramp along the coast of Dorset is particularly enticing. Hampshire, by the way, is more noted for its New Forest scenery, and there are many delightful tramps around Lyndhurst.

The West Country, Devon and Cornwall, must not be overlooked, for there is some of the most attractive hiking country there that you can wish

for ; a walk across Devon from coast to coast is a wonderful experience. What enchanting scenery you find thereabouts! Dartmoor and Exmoor are rival claimants for the favour of the hiker.

Somerset is another good county for an Easter walk, for there you find the richly wooded Quantocks. You cannot go far wrong in Somerset, for it has the Lorna Doone Country within its borders, and the prehistoric remains of Salisbury Plain.

Cheddar Gorge, of course, is another wonderful bit of scenery found in this lovely county. From here we may travel on to Herefordshire and the lovely valley of the Wye; nothing can be finer than a tramp through this district, or, if preferred, to stay at Ross and from that centre take daily walks all around. Symonds Yat, Tintern, and Chepstow are names to conjure up pictures of

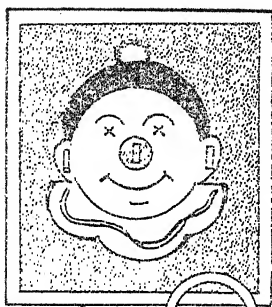
marvellous countryside, and no one can ever be disappointed with a hiking holiday in these parts.

Near London

But if you are a Londoner you will perhaps wish for something nearer home at Easter. Well, there is Kent, the "Garden of England," always beautiful in early spring. The Medway valley affords excellent tramping, and there are many beautiful coastal walks. Sussex is another beautiful county, which has been deservedly praised by such writers as Kipling, and Sheila Kaye-Smith. The South Downs afford grand hiking country.

Finally, having chosen your district, get a map—the One Inch Ordnance Map for preference—of same region, and glance through any books you may have dealing with that stretch of countryside, so that you will be able to explore any really interesting things and places *en route*.

FUNNY FACE RING TOSS



A RING Toss is a good game to have in the house. This one, called Funny Face, has three hooks, one on either side for earrings, and one in the

centre for a nose ring.

It is interesting to make too, and the cost is practically nil. All that is wanted is some wood, a few rings, and a little paint or enamel.

As to the rubber rings, they are simple enough too, just save up a few of the rubbers that come off fruit and other glass jars, and you will soon have enough for a set, which can always be added to.

The face is cut from three ply—to any size you wish. Plan out the shape first on a piece of paper and if you use a pair of compasses it will be quite easy.

A 7in. circle is a good size. Rule a line down the middle and one across—these make good guide lines for keeping the features straight.

Nose and Mouth

From the centre point of the circle draw a smaller one for the nose, and still working from this point describe part of a circle for the mouth, and just a little piece to indicate the chin. Two small lines either side of the mouth, to give expression, are easily added.

Rule a line across the face just above the nose, and at equal distances from the centre line make

two crosses for the eyes. From the centre of these set the compasses and draw the eyebrows.

Sketch in the beret, but use the compasses for the pom-pom on top. Draw one ear, and trace it down, reversed, the other side. Draw half the collar and reverse it the same way.

For the cut-out simply trace the outline on the wood about 3/16in. or 1/4in. thick and saw round, smoothing the edges with glasspaper. Paint the surface with undercoat, and when dry, with flesh colour. For flesh colour add a spot of red and a touch of yellow to white. Don't make the colour too deep.

Painted Features

When absolutely dry trace down the features—use the compass again on the wood to get good slick circles. Paint the beret black with a red pom-pom, the nose red, and the mouth red.

Eyes and eyebrows are black. Collar white with red line. Fix the face to a square board painted green or some other colour, then screw in the hooks at either side and the middle. If you want to make more put in two for the eyes. Hooks are made in various sizes, so choose some to give enough room for the rings.

The square board is to allow for the screws of the hooks—but the face could be cut from altogether thicker wood—say 1/2in. thick, when there would be no necessity for the square.

The game is to see who can score a given number first—say 50. Count the middle hook as 10, and the sides 5 each, or 3 and 4. All sorts of variations can be made in fact.

The Funny Face can be hung on a cord from the picture rail, or from a nail.

NEEDS OF THE BEGINNER

HOME CHEMISTRY



IN compiling these articles it is assumed that the average reader has some knowledge of chemistry. It is proposed to deal with the subject not as a series of disconnected experiments but as a fairly comprehensive treatise on modern chemistry illustrated by interesting practical work.

The home laboratory should be fitted as simply and inexpensively as possible. The bench may be an old deal table, or if this is not available, construct a plain wooden rectangle to protect the kitchen table. If possible work near a sink.

For a source of heat, obtain a bunsen burner. It is unnecessary to have a gas point fitted as the burner may be connected by means of a suitable length of flexible metallic tubing to the nipple of a gas stove.

Use rubber tubing for the few inches nearest to the bunsen burner so that you can regulate the gas by means of a screw clip without leaving the bench.

Quicklime in the Cupboard

Keep your chemicals and apparatus in a cupboard containing a few lumps of quicklime in a jam jar. This will absorb moisture from the air and keep the chemicals dry.

For a beginner the following chemicals will be necessary:

Alum, ammonia solution, ammonium chloride (sal ammoniac), borax, bleaching powder, calcium oxide (quicklime), copper sulphate, iron filings, lead acetate, litmus, magnesium sulphate (epsom salts), manganese dioxide, marble chips, potassium bichromate, potassium chlorate, potassium hydroxide, potassium nitrate, potassium permanganate, sodium bisulphate, sodium bisulphate, sodium carbonate (washing soda), sodium chloride (common salt), sodium hydroxide (caustic soda), sodium silicate (water glass), sodium thiosulphate (photographers' hypo), sulphur, zinc, granulated, sulphuric acid (concentrated), nitric acid (concentrated), hydrochloric acid (concentrated).

Necessary Apparatus

All these chemicals, except the acids, may be kept in corked bottles or jars. The acids must be stored in stoppered bottles. Use stick-on labels with the name of the chemical printed in block capitals.

It is an excellent plan to coat the labels with clear cellulose lacquer. This keeps them clean and resists chemical attack.

The following apparatus will be necessary.

1 beaker, 250c.c. capacity; 1 beaker, 400c.c. capacity; 1 mouth blowpipe; 1 test tube brush; a few corks; 1 small porcelain crucible with lid; 1 pair crucible tongs; 1 evaporating basin, 1000c.c.;

1 small file, triangular; 1 packet of medium filter papers; 1 conical flask, capacity 200c.c.; 1 globular flat bottom flask, capacity 500c.c.; 1 globular round bottom flask, capacity 300c.c.; 1 retort stand; 1 glass funnel, medium size; 1 thistle funnel; 3 gas jars (jam jars will serve excellently); 1 pipe clay triangle; 1 dozen test tubes; 1 test tube stand; 1 tripod stand; a little rubber tubing for connecting glass tubes, and a few lengths of glass rod and tubing.

The foregoing seems rather a formidable list, but actually the cost is quite low.

In addition to these a bottle of distilled water will be required. This may be obtained for a few coppers and should always be used for preparing solutions of chemicals.

The distilled water should be kept in a wash bottle which may be made as explained.

You will need the 500c.c. flat bottom globular flask (with two-hole rubber bung to fit) two pieces of glass tubing which fit tightly into the bungs and a short piece of rubber tubing. Heat a piece of tubing at about three inches from one end until the glass softens. Then bend very carefully to about the angle shown in Fig. 1a.

Allow it to cool slowly so it does not crack. Then heat the other piece of tubing near the end and draw it out so that a fine jet is obtained. Bend the tube at a distance of about three inches from the jet to the angle shown in Fig. 1b.

Allow it to cool slowly so it does not crack. Then heat the other piece of tubing near the end and draw it out so that a fine jet is obtained.

Bend the tube at a distance of about three inches from the jet to the angle shown in Fig. 1b.

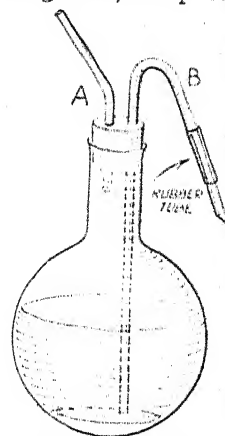
Glass tubing may be cut by making a scratch with the file and applying a bending strain to the glass at the scratch the tube will then snap cleanly.

Cut off the drawn out end of the acute bend and re-connect it to the tube by means of the piece of rubber tubing. Then cut the tubes to the proportions shown in the figure, taking care the longer tube reaches to the bottom of the flask.

Round off the sharp edges of the freshly cut glass by holding the ends of the tube in the bunsen flame until the glass softens. This operation is known as fire polishing.

The parts may now be assembled and the flask filled with distilled water. It is obvious that by blowing down the shorter tube a stream of water may be caused to issue from the jet.

(To be Continued)



A bottle prepared as described

A HANDY WRITING DESK

Do you do much writing? If so, here is a novel little table that should meet your requirements favourably. It is cheap and easily made, with nothing redundant in its design. You can, if desired, make a suitable blotting pad for the top as in the illustration. After use, the pad fits neatly into the drawer which is divided for notepaper and envelopes.

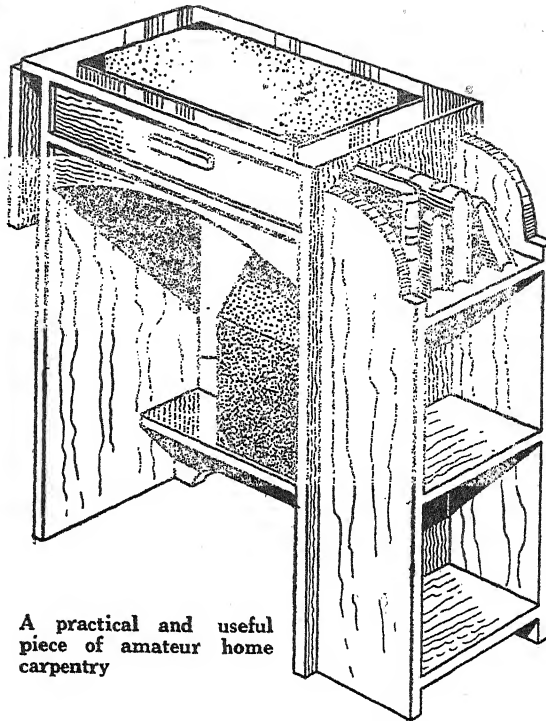
If you possess a portable typewriter, the drawer takes the usual 10 $\frac{1}{2}$ in. by 8 $\frac{1}{2}$ in. sheets. The knee space has a footboard on which the typewriter can sit after use, and as the board is far back, a chair can be kept in the aperture to be out of the way. The bookcase is ideal for dictionaries and other reference books and literature.

Wood to Use

Any class of $\frac{1}{2}$ in. wood can be used for the construction, but for cheapness, deal and Spanish chestnut are recommended. Work should be commenced by marking and squaring off the end gables as in the elevation at Fig. 1. Having divided the interior sides for the drawer bearer rail, arch piece, etc., as shown, cut out these parts (see Materials List for nett sizes).

Glue and nail the table top to the respective gables to project 1 in. at one end and be flush with the other, then attach the footboard and shaped under rail. The drawer bearer and arch piece are nailed in position, the latter showing an $\frac{1}{2}$ in. break. By the way, use 2in. or 1 $\frac{1}{2}$ in. oval nails, as wire and cut nails are liable to split the wood. Indeed, where the end grain is rather short, it would be advisable to make holes for even the oval nails with a sprig bit or bradawl.

The drawer runners can be fitted and screwed



A practical and useful piece of amateur home carpentry

against the inside of the gables to be flush with the bearer rail surface. Having got thus far, all nail heads are sunk, filled in with plastic or cement (wax filling) and the work glasspapered.

The Bookcase

The bookcase is built independently, glass-papered (after the nail heads have been attended to) and then glued and nailed to the gable to show an even $\frac{1}{2}$ in. margin at the sides. The nailing, of course, is done from the interior side and to ensure accuracy, first pencil the casing position on the outside of the gables, then pierce holes through at convenient and strategic points. The work is set on top of the casing and the nailing proceeded with.

The table flap (which can be 12ins. long if desired) is attached with a couple of 2in. brass hinges, the work being turned upside

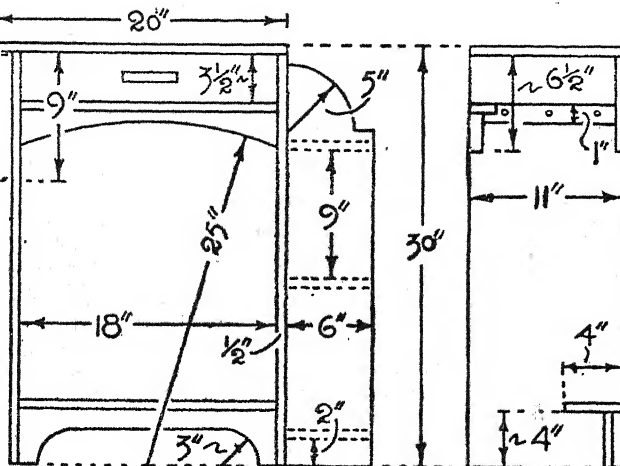


Fig. 1—A front and sectional end elevation

MATERIALS REQUIRED

- 2 gables—29 $\frac{1}{2}$ ins. by 11ins. by $\frac{1}{2}$ in. thick.
- 1 top (with flap)—32ins. by 11ins. by $\frac{1}{2}$ in. thick.
- 1 drawer bearer—18ins. by 2ins. by $\frac{1}{2}$ in. thick.
- 1 arch piece—18ins. by 2 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 1 back piece—18ins. by 6 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 1 footboard—18ins. by 4ins. by $\frac{1}{2}$ in. thick.
- 1 under rail—same size.
- 1 drawer front—18ins. by 3 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 2 drawer sides—10ins. by 3 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 1 back piece—17 $\frac{1}{2}$ ins. by 3ins. by $\frac{1}{2}$ in. thick.
- 1 division piece—10ins. by 3ins. by $\frac{1}{2}$ in. thick.
- 2 lengths stripwood—36ins. by $\frac{1}{2}$ in. by $\frac{1}{2}$ in.
- 2 lengths $\frac{1}{2}$ -moulding (No. 34)—Same size.
- 1 plywood bottom—17 $\frac{1}{2}$ ins. by 10ins. by $\frac{1}{2}$ in.
- 2 bookcase sides—29ins. by 6ins. by $\frac{1}{2}$ in. thick.
- 3 shelves—9ins. by 6ins. by $\frac{1}{2}$ in. thick.
- 1 wooden handle (No. 238)—4ins. long.
- 2 stout brass hinges—2ins. long.
- 1 bracket hinge—6ins. long (obtain locally)

down, of course, for convenience. A 6in. long steel bracket hinge is screwed to open in the middle of the flap. A view of such a hinge is shown at Fig. 3.

The Drawer and Blotting Pad

Having fitted the drawer front and rebated the ends for the $\frac{3}{4}$ in. thick sides (refer to Fig. 2), glue and nail the latter in place, then attach the back piece between. As usual, the plywood bottom is affixed with stripwood and quarter-round mould-

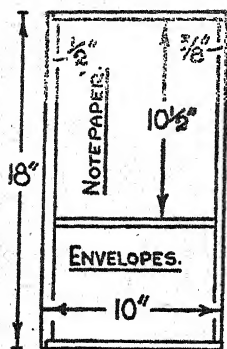


Fig. 2—Details of drawer

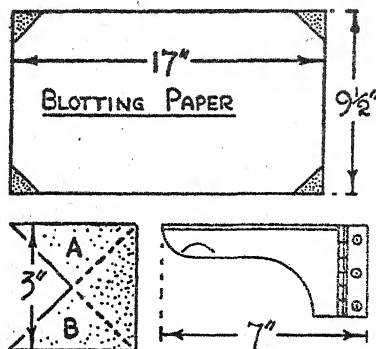


Fig. 3—The pad, corners and hinge

ing which is mitred at the corners. The division piece should fit between the back and front.

When the drawer has been pruned to slide in and out with a minimum of freedom, stop it (at the top) with plywood discs or squares to show an $\frac{1}{2}$ in. break. A wooden handle is then added to the centre of the front, after which the work can be stained and polished or enamelled, varnish-painted, etc., etc.

To make the blotting pad, you require some pieces of thin leatherette, a board of cardboard 17ins. by 9 1/2ins., and a few sheets of blotting paper the same size. The blotting paper can be had locally at most stationery shops. It would not matter if you cannot obtain it the size suggested; the board or card can be altered accordingly.

The leatherette corner pieces are folded and cut as seen at Fig. 3. Glue tab A under tab B, then glue inside the fold of the pocket for attaching to the corners of the cardboard. The top of the pocket is thus free to accommodate two or three sheets of blotting paper. Incidentally, the pad would look better if the card were covered with doll's house paper prior to attaching the leatherette pockets.

SET OF SIMPLE CORNER SHELVES

THE combination of corner shelves indicated in the accompanying illustration are most useful in one of the corners of the workroom, or bedroom, which is often turned more or less into a dumping ground for odds and ends.

The arrangement is very useful for keeping the various bottles of polish, tins of wood dyes, and tins of enamel, also brushes, etc. The bottom shelf is made a little larger to allow for doing a job of mixing.

The shelves also will be found useful for storing packets of screws, nails, and small boxes of fittings used in the course of general woodwork. The whole thing is quite simple to make and fix up.

First cut a piece of wood 20ins. long by 3ins.

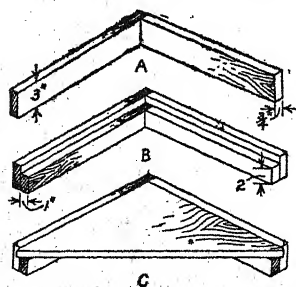


Fig. 1—Details of shelves

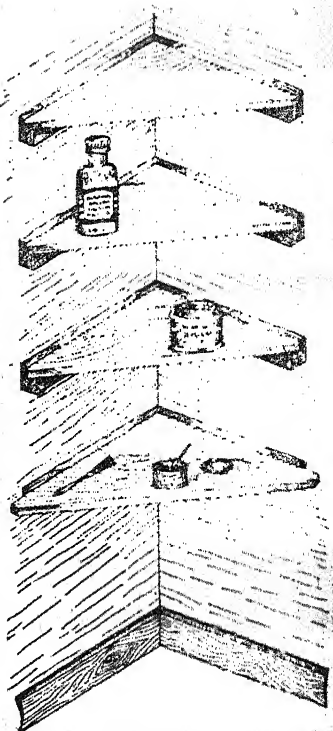
wide by $\frac{1}{2}$ in. thick, and another piece 19 1/2ins. long by 3ins. wide, and fix these in the corner of the wall as shown at A, Fig. 1. The bottom shelf should be about 3ft. from the ground and the others about 16ins. apart.

When the bat-

tens have been fixed in position in the corner, screw on pieces of wood 2ins. by 1in. as indicated at B, Fig. 1. The upper shelves are now completed by fitting in wood 1in. thick, which should be 21ins. long on the sides as indicated at C, Fig. 1.

The bottom shelf is also made in wood 1in. thick, and the sides for this are made 22ins. long. The shelves can now be finished off with a coating of stain.

In all cases if the wood for the shelves is too wide, two narrower boards can be used to make up the required dimensions.



A HOME-MADE TRAILER CARAVAN

THERE are few more delightful ways of spending a holiday than with a caravan. The freedom enjoyed by putting up when and where you like has a lot to recommend it, no wonder a caravan holiday is popular. They cost money to hire, though, and if the reader can build one for himself, a considerable expense is saved.

The trailer caravan, which is the subject of this article is designed on up-to-date lines, streamlined in fact, and is quite commodious for a couple of pals, or a small family. It would be idle to deny that it requires some woodworking skill to build, but nothing which any handy carpenter need fight shy of.

In fact, considering its size and professional appearance it is surprisingly easy to construct, and not too heavy to handle or tow. Follow out the instructions carefully, and no difficulty need be experienced.

Complete Cutting List

The sizes of the timbers used will be found in the cutting list, so will not be referred to in the text except in certain cases.

Some useful details as regards wheels, towing gear, etc., will be given at the end, so readers intending to build the caravan, are advised to read the whole article through before commencing construction.

Make a start by preparing the floor frame, shown in plan and end view, Fig. 1. The end bearers are joined to the side members as in Fig. 2, a 2 in. screw being driven through the centre of the joint from underneath, to lock it.

Bearers

The middle bearers are notched in, as in Fig. 3, and screwed through the side. The notches are just $\frac{1}{2}$ in. deep, no more. The runners underneath are bolted to the bearers after the flooring is laid. As the springs are fixed to these, their distance apart will obviously be measured across the springs.

Figs. 4 and 5 show side and end elevations of the caravan framework, and should be carefully studied. First take the corner posts, A. These are cut to the full length, plus 1 in. for a tenon at the bottom.

Floor Members

Fig. 6 shows a plan view of a corner of the

floor frame showing the mortise to be cut, the tenon on the posts being cut, of course, to suit. Verticals B and C of 1 in. by 2 in. stuff, are cut to full length, plus $1\frac{1}{2}$ ins. for tenons at the bottom.

The shape of these tenons is shown in Fig. 7. Cut the corresponding mortises in the side members of the floor frame so that the verticals will be flush with the outer face.

For a distance down of 8 ins., cut a piece $\frac{1}{2}$ in. thick from the tops of the posts and verticals, as in Fig. 8. Corner posts A1 are now cut and fitted in, then verticals D, both tenoned at the bottom as already described.

These are not cut away at the top at the moment but, to keep all the posts truly vertical and the same distance apart while the top boards are fitted nail battens temporarily across. One batten say between A, B and C and one between C, D and A1.

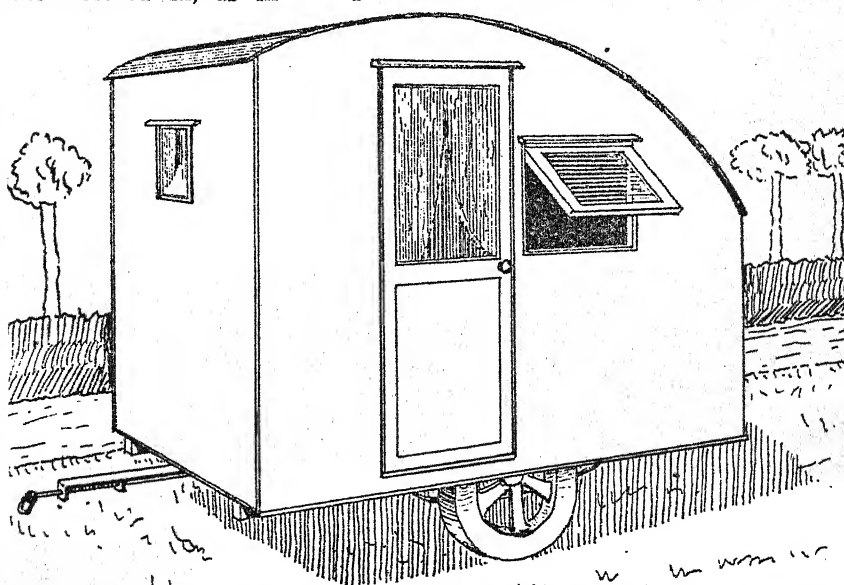
The Roof Shape

Top board E is now laid across the posts and where it touches them cut grooves $\frac{1}{2}$ in. thick. The board can now be lightly nailed across and will be flush with the face of the posts, as in Fig. 9.

Take board F, lay across C, D and A1 as in Fig. 4, and draw a pencil along the under edge to mark its position on the posts. Remove and from the pencil lines upward reduce the thickness of the posts D and A1 in the same way as done to fit board E.

Where F crosses E saw the latter across. Board F is now grooved at the back to fit on the posts in exactly the same way as E, and fitted across.

At the weak spot A2, screw in a wooden bracket. To get the curve of the roof, a makeshift beam compass must be used unless a proper one is



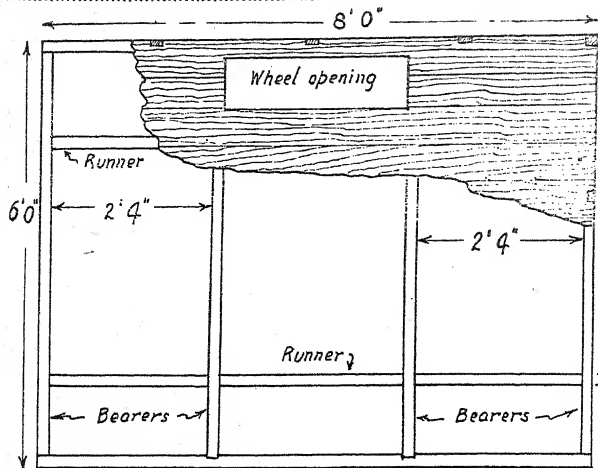


Fig. 1—A plan of floor frame and bearers

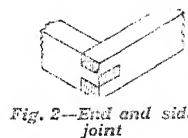


Fig. 2—End and side joint

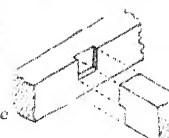


Fig. 3—Middle bearer joints

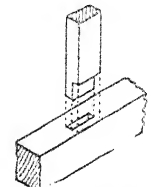


Fig. 7—Upright joints

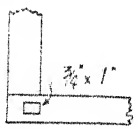


Fig. 6—Floor corner

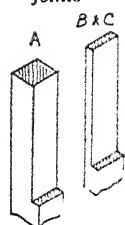


Fig. 8 (right)—Notched uprights

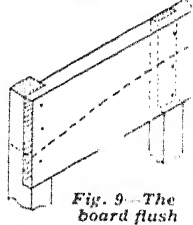
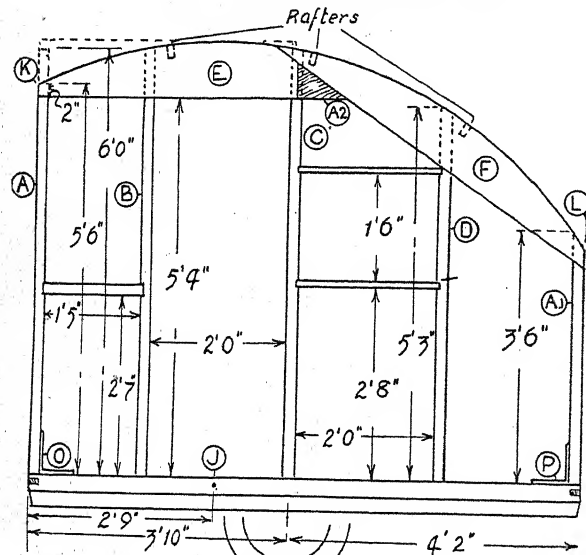


Fig. 9—The board flush



Figs. 4 and 5 (right)—Side and end elevations giving helpful dimensions

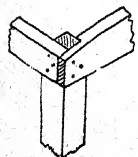


Fig. 10—The cross rail

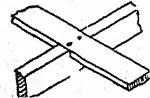


Fig. 12 (right)—The joint covers

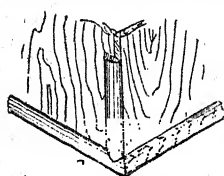


Fig. 19 (left)—Shock absorbers

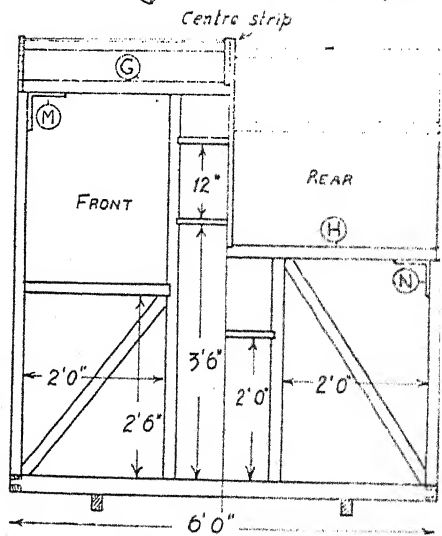


Fig. 13—Linings to windows

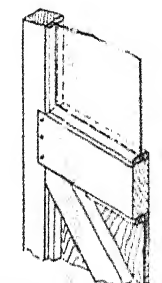


Fig. 14—Door details

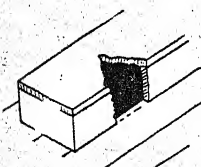


Fig. 15—Cut-away view of wheel box

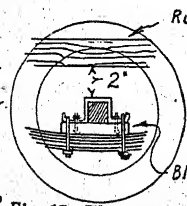


Fig. 17—The underslung type of spring

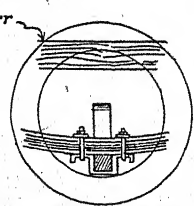


Fig. 16—The sunk type of axle



Fig. 18—Section showing towbar

handy. Quite easy this, it is just a long strip of wood with a nail driven in one end for a compass point and a hole for the pencil near the other end.

The distance apart of these will be from point J on the side of the floor frame to K. Now swing the compass round to L, and saw round the curve. Bow saw or keyhole saw will do this.

Window Framing

The cross rails, outlining the window spaces, are now fitted. They are best grooved in $\frac{1}{4}$ in. each side and there nailed. The rail between posts A & B is fitted across similarly, about midway. Now for the end rails and rafters, to complete the framework.

At the front end, rail G is screwed across, as in Fig. 10, the tops of the posts being cut away to let it in. It is then flush with the face of the posts and butts up against board E.

The top edge should be slightly curved to the curve of the roof.

The verticals, or intermediate posts, are tenoned into the floor frame like the side ones, and halved into rail G like boards E and F. Cross rails for the window opening are grooved in and nailed as before.

The rear end rails H and cross rails are jointed in as for the front ones. The diagonal braces are left for awhile, also the rafters, until the flooring of the caravan is fitted. This can be done now.

Referring again to Fig. 1, the floor frame is shown partly boarded over. Use 1 in. thick T. & G. floor boards for the job. The two extreme side boards should be trimmed to fit round the posts and verticals, also the ends of the boards where they come up against them.

The openings for the wheels are cut away as the

work of boarding over proceeds, and should be wide enough to clear the wheels with a 1 in. or so to spare.

Having nailed the floor boards across, proceed to take the framework of the caravan apart, for gluing. It is wise to number the parts so as not to get them mixed.

CUTTING LIST

Parts.	No.	Length.	Width.	Thickness
Floor Frame.—				
Bearers	4	6ft. 0ins.	3ins.	2ins.
Sides	2	8ft. 0ins.	3ins.	2ins.
Runners	2	8ft. ins.	3ins.	2ins.
Sides—				
Posts A	2	6ft. 1in.	2ins.	2ins.
Verticals B, C ..	4	6ft. 1½ins.	2ins.	1in.
Verticals D	2	5ft. 4½ins.	2ins.	1in.
Posts A1	2	3ft. 7ins.	2ins.	2ins.
Boards E	2	3ft. 11ins.	9ins.	1in.
Boards F	2	5ft. 6ins.	9ins.	1in.
Cross Rails ..	4	2ft. ½in.	1in.	1in.
Ditto	2	1ft. 5½in.	2ins.	1in.
Ends—				
Rails G.H.	2	5ft. 10ins.	2ins.	1in.
Verticals	2	5ft. 7½ins.	2ins.	1in.
Ditto	2	3ft. 4½ins.	2ins.	1in.
Cross rails ..	3	1ft. 4½in.	1in.	1in.
Ditto	2	2ft. ½in.	2ins.	1in.
Diagonals	2	3ft. 4ins.	2ins.	1in.
Ditto	2	3ft. 7ins.	2ins.	1in.
Rafters	3	5ft. 10ins.	2ins.	1in.
Central Roof Strip	1	10ft. 0ins.	1½ins.	3in.
Flooring—1in. T. & G., approx. 50 sq. ft.				
Door and window frames—1in. by 2in., 40 ft.; 1in. by 3ins., 15ft.				
Plywood—½in., 10 sheets, 5ft. by 4 ft.				
Lining strips and draught strips—½in. by 1½ins., 100 ft.				
Moulding—½in. half round, 50 ft.				
Weather strip, ½in. by 1in., 12 ft.				
Beading—½in. by ½in., 100 ft.				

Glue all joints and substitute screws for the nails where temporarily used in boards E & F and front and rear cross rails. At points M, N, O, P, screw 6in. iron brackets to stiffen the structure. Diagonal braces should also be nailed in where shown.

Across where indicated in Fig. 4 screw the rafters. In the centre of these rafters, and also rails G and H, cut a $\frac{3}{4}$ in. by $1\frac{1}{2}$ in. groove to receive a longitudinal strip to break the space between the sides.

Plywood Roof

This is necessary, as the plywood to be used for the roof covering is not usually obtainable wide enough to go across in one piece. Two pieces are therefore necessary, butting together over the central strip, which, by the way, is best of oak or ash.

It is screwed in the grooves in rails and rafters as in Fig. 11 and, of course, bent to the same curve as the roof. If care has been taken in the work of jointing, the framework should all be square now, and reasonably firm and rigid.

Cover the sides and ends with plywood, glued and pinned with panel pins, and cut out the window openings. Where joining is necessary, let the ends of the sheets butt together over the cross rails. E

Extra rails can be fitted across, where desirable, for the same purpose but, even at the risk of a little waste, let the spaces be covered with unbroken sheets as far as possible, it greatly improves the general effect.

Cover the cut ends of the plywood sides with a moulding, and run a moulding all round at the bottom, as in Fig. 12.

(To be Continued)

NATURE NOTES

Snowflowers

It seems rather paradoxical, that the snowdrop, our earliest wild flower is the most genteel and delicate in appearance. Early in the new year, before the last snows and gales of winter, the little sheaf of light green daggers stab their way through the hard earth, protecting, like tiny bayonettes, the delicate flower that is being born in their middle. As the snow white bulb stretches itself above its guardians, it gradually falls over to form the lovely bell. This dangling bell idea is no doubt nature's protection, so that the snows and cold winter's rain cannot settle in its cup. To



peep into the flower is to see a cupula, edged with the most delicate of greens.

Snowdrops look their best in mass-formation, and their favourite haunt is on the sloping banks of some woodland stream.

Don't pluck them, or they will soon die—die of a broken heart.

A GARDEN WHEELBARROW

THE garden barrow illustrated is made from $\frac{1}{2}$ in. and $\frac{3}{4}$ in. deal boards. It is light, sturdy and of a size convenient to most gardens. There are no difficulties in the making, apart from the wheel.

This, however, is constructed in an extremely simple way as can be seen from the various details given. It is largely a matter of tenoning four shaped spokes into a square axle hub and screwing them in a prepared rim which is then "tyred" with a hoop of thin iron.

The Bodywork

To make the body, shape the ends and bottom to size as given at Fig. 2, making allowance for trimming. The front end piece, incidentally, measures 11 ins. wide, with the rear end 9 ins. wide. The sides are shaped as shown in the side elevation at Fig. 1.

You will need to ask someone to hold the sides and ends temporarily together (on the floor) while you pencil the approximate angles required to be planed on the edges of the sides. The work, of course, must be held as square as possible.

Having bevelled the side edges, nail them between the ends to measure 10 ins. at the front and 18 ins. at the rear to correspond with the size of the bottom. This means that the sides are kept in some distance from the edges of the ends (see dotted lines at Fig. 2).

Turn the work upside down and plane the bottom edges of all four pieces so they rest flat on the bottom. The bottom consists of two 9 in. wide boards which can be dowelled or rub-joined or tongue and grooved together.

The edges and ends of same can remain square or be bevelled in conjunction with the body. Only do this when it is glued and nailed in position.

Attaching the Shafts

Shape the shafts to size and round the handle ends with a spokeshave slightly. They are glued and screwed flush with the edges of the bottom to

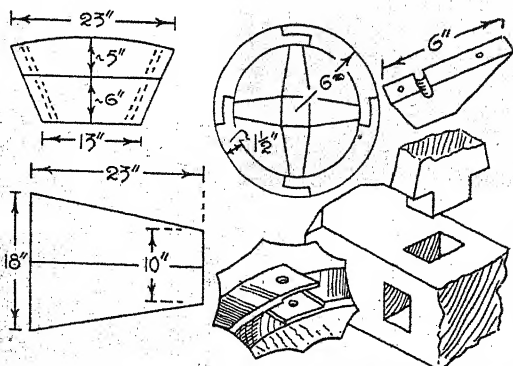
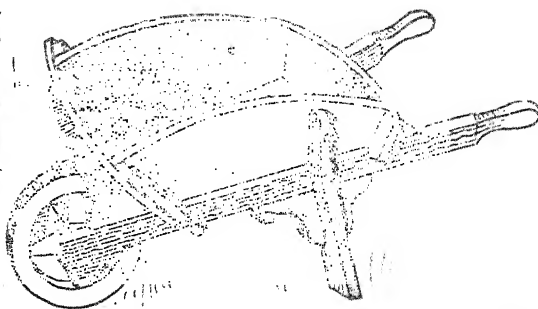


Fig. 2—The ends and floor

Fig. 3—Details of the wheel



project about 9 ins. at the front. Use $2\frac{1}{2}$ in. by 8 flathead iron screws.

The legs are then cut to shape and fitted to the sides. Bevel to take the angle of same and note (from the sketch) that they are checked halfway to the thickness of the shafts to be in alignment for the strengthening blocks or wings which are screwed to the shafting and the legs.

Fitting the Legs

The legs are attached with glue and roundhead screws or thin carriage bolts. You will require six wing blocks. When cutting to shape, have the grain running the length as in the illustration. Secure to both sides of legs with glue and suitable roundhead screws.

The other two blocks are fixed similarly to the inner sides of the legs and the bottom; they are $2\frac{1}{2}$ ins. longer in view of the width of the shafts.

Strengthening bars of wood are screwed or bolted to the front ends and sides of the body. Shaped wings are cut out of $\frac{1}{2}$ in. stuff, and attached with screws or nails as shown. They sit perfectly upright on the shafts and, of course, the grain runs the long way.

Making the Wheel

To make the wheel, first mark out the pattern or side view (given at Fig. 3) with pencil and compasses on paper. The hub is 2 ins. square, while a spoke detail is provided at Fig. 4.

The rim is built up of four segments or felloes as is shown, same being marked out. Do this accurately and then cut out the pattern and use as a template for marking the segments on $\frac{1}{2}$ in. or rim thick wood. A bow saw or keyhole saw should be used in cutting.

Attach the felloes together with glue and single flathead $1\frac{1}{2}$ in. long screws. When dry, clean the rim over with a plane, spokeshave and rasp, then prepare the spokes and hub block which is about

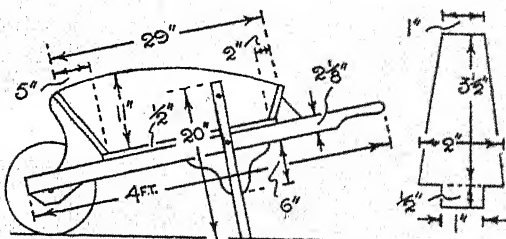


Fig. 1—Side elevation with dimensions

Fig. 4—Size of wheel spoke

6ins. long (find the correct length by actual measurement between shafts).

Glue the spokes into their mortises (see Fig. 3) and fit the lot into the rim. The $1\frac{1}{2}$ in. screws in same are removed and replaced one by one with 2in. screws to grip the spoke ends. A $\frac{3}{4}$ in. hole is bored right through the centre of the hub block.

To get the hole true and straight, work from both ends of the block. The axle pin (which is forced into the hub hole) is a piece of $\frac{3}{4}$ in. mild steel (solid) rod about 8ins. long to project 1in. or more at the ends.

The Wheel Hoop

As stated, a piece of iron or mild steel bar 1in. wide by $\frac{1}{2}$ in. thick forms the wheel hoop or tyre. The ends are half-lapped about 1in. long (see inset) and screwed down on the wheel rim with $\frac{3}{4}$ in. by 6 flathead iron screws. A large twist drill will countersink the screw holes.

When attached, file any projections of the screw heads flush and remove the corners from the hub block. Axle pin blocks 6ins. by 2ins. by $\frac{3}{4}$ in. (see Fig. 3) are slotted and screwed underneath the shaft front ends to keep the wheel in place. This completes the barrow which may be painted green. The wheel could be painted black, whilst the inside of the body is usually a brick-red colour.

MATERIALS REQUIRED

Deal.

- 2 body sides, 30ins. by 11ins. by $\frac{1}{2}$ in.
- 1 rear end, 24ins. by 5ins. by $\frac{1}{2}$ in.
- 1 front end, 24ins. by 11ins. by $\frac{1}{2}$ in.
- 2 bottom pieces, 24ins. by 9ins. by $\frac{1}{2}$ in.
- 1 wing piece, 12ins. by 11ins. by $\frac{1}{2}$ in.
- 2 shafts, 4ft. by 2ins. by $\frac{1}{2}$ in.
- 2 legs, 20ins. by 2ins. by $\frac{1}{2}$ in.
- 1 wing piece, 12ins. by 10ins. by $\frac{1}{2}$ in.
- 1 spoke piece, 12ins. by 5ins. by $\frac{1}{2}$ in.
- 1 hub block, 6ins. by 2ins. by 2ins.
- 1 felloe piece, 18ins. by 8ins. by $\frac{1}{2}$ in.
- 1 bar piece, 15ins. by 6ins. by $\frac{1}{2}$ in.

OUR PICTURE

LAST WEEK

PUZZLE CONTEST

Here is the last picture in our popular picture contest. You'll like working out the simple, but tricky little puzzles—and then imagine winning a brand new A1 Fretmachine! It MUST be won—somebody's going to win it—and that somebody can be YOU!

But, should you just miss the mark, there's a fine Second award which enables you to order any goods you like in Hobbies Handbook from Hobbies, Ltd., up to 17/6. None of these will be yours, however, unless you read the Rules and Conditions carefully and abide by them. A copy of the previous three Hobbies with the pictures are still obtainable for 3d. each, post free.

RULES AND CONDITIONS

COMPETITORS must complete the coupons in INK with block capital letters, there being 4 coupons (15 single puzzles) in all. Names and addresses must be clearly written or printed on the space provided by the final coupon, No. 4.

The set of coupons should be fastened together (in their proper numerical order) with a pin or clip at the top left-hand corner and be enclosed in an envelope (bearing 1d. stamp) addressed to:—Picture Puzzle Contest, "Hobbies Weekly," Dereham, Norfolk, to reach here not later than Saturday, April 23rd, 1938.

Oversea entrants have a special closing date, this being June 30th, 1938. Any entries received after these dates will be disqualified. Puzzles bearing alteration, mutilation or with more than one letter in the space of each provided will count as errors.





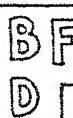
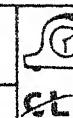
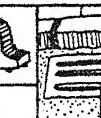

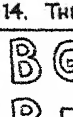



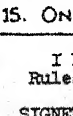
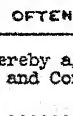
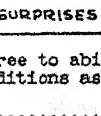
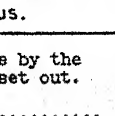
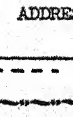
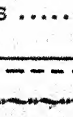
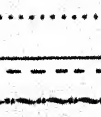
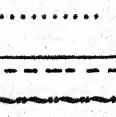
The First Prize will be awarded to the entrant having the most correct answers. In the event of ties, aptness and neatness will decide the issue, the other prizes following in order of scrutiny.

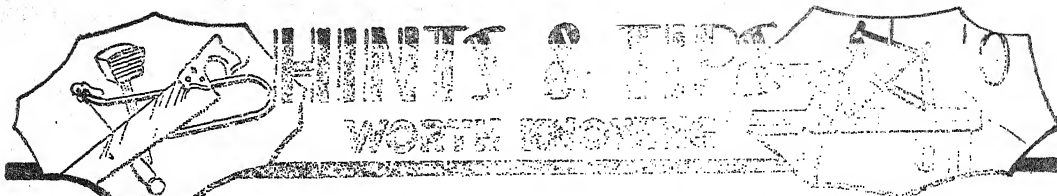
If two or more answers are adjudged of equal merit to a clue, such will be accepted as correct. The Editor's decision must be taken as final and legally binding and no correspondence can be entered into.

Allowance cannot be made for efforts lost or delayed in the post or otherwise nor can proof of posting be taken as proof of delivery. NO CLAIMING IS NECESSARY and names of winners will be announced after the closing dates. The solution cannot be published until after the Overseas Section has closed.

CLOSES APRIL 23rd

SEND ALL 4 PICTURES IN NOW!

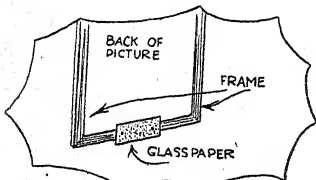
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13. WE SOMETIMES TRIP UP OVER ONE.			
			
			
14. THESE ALWAYS IRRITATE DRIVERS.			
			
			
15. ONE OFTEN SURPRISES US.			
I hereby agree to abide by the Rules and Conditions as set out.			
SIGNED			
ADDRESS			



For original Tips published the sender will receive two dozen Fretsaw Blades. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

A Picture Hanging Tip

HERE I enclose a tip for when pictures, especially small ones, hang crookedly. You need only a piece of glasspaper and about



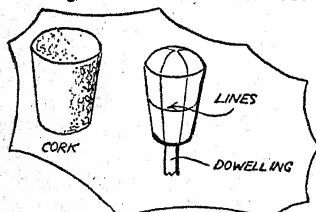
two tin-tacks. Tack the piece of paper to the lower edge of the frame at the back lower edge (see sketch) and when you hang it up it will not slip.—(D.A.S.)

Cleaning Woodwork

WHEN your woodwork has bad marks on it, they can easily be removed by scrubbing with a scrubbing brush and a little powdered eggshell.—(W.R.C.)

Galleon Lanterns

A VERY effective and quick way to make lanterns for model galleons is as follows. Use



an ordinary bottle cork (the size, of course, depends upon the galleon), wet the blade of your knife and round off the cork at the thickest end. Smooth it up with fine glasspaper and paint it yellow with black lines for iron bars. To finish it off, insert a small piece of dowelling in the base, which may be fitted in the deck and stern.—(J.S.)

Simple Fire Lighter

SOAK a cinder overnight in paraffin. In the morning place on top of a piece of paper in the grate, cover cinder with small lumps of coal and light the paper, and the coal will light without any difficulty.—(A.H.)

Model Sails

THIS is a Tip which I find very useful in making paper sails for model boats. After painting the decorations, dry them and varnish over with clear varnish. Clear varnish is very serviceable and very much resembles cloth sails.—(E.S.C.)

Modelling Paste

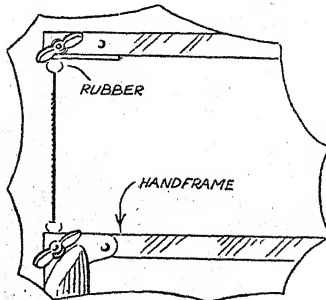
I HAVE no doubt that everyone has at one time or another wished for a modelling paste which sets hard like stone. Make a paste of rice flour and water, and after kneading it well, put it in a saucepan over a slow fire. Have just enough water to prevent it burning, and simmer for at least an hour. Models made with this material will set hard if left in a cool place.—(P.J.S.)

Slow Plaster of Paris

WHEN using plaster of Paris, moisten with vinegar instead of water. With vinegar it makes a putty like paste, which will not harden for about half an hour, and, therefore, can be easily smoothed. If mixed with water it sets at once.—(G.S.)

Fretsaw Shock Preventer

FOR those readers who use a handframe, here is a good tip which will prevent any damage to the wood while sawing. Obtain two small pieces of rubber or balls



and make a small hole in them. Now put one on each side of the sawblade next to the frame as in sketch. This will prevent damage to the wood while sawing.—

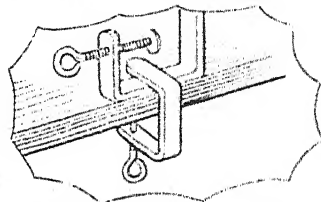
(R.R.W.)

Castor Wheels Insulation

IF you live on an upper floor and the noise of moving furniture annoys the people below, wrap the castor wheels with two or three layers of insulation tape to cushion them. This will also help to prevent the castors marking the floor. Before applying the tape, clean the castors thoroughly with petrol so that the tape will stick tightly.—(A.F.)

Vice from Two Clamps

IF you possess two fretwork clamps, you can easily rig up a vice as shown in the sketch. One clamp is used on its side and



is secured to the bench by the other. Screw tightly to the bench to hold firmly and you have a useful little vice for small work of a light nature.—(G.W.)

Coloured Lantern Slides

MANY people like to know how to make good coloured slides. Here is, an easy way. First, obtain some water-transfers, then put them lightly on the surface of a basin of water for 5 mins. Now, get a strip of glass to fit your lantern. Then, place the picture on the glass, and slowly slide the paper away. Let the picture dry, and it can be used.—(R.H.)

Pictures

LOVELY art pictures can be made from Hobbies designs, such as birds, dogs or vases of flowers. Place the design under glass and paint white parts black, thus leaving design exposed. When paint is quite tacky, stick pieces of coloured tinfoil on paint side of glass (this will be held in position by paint) giving a beautiful art panel which can be bound with passe-partout framing and hung in a prominent place in the home.—(R.W.)

The EDITOR'S NOTES



AS this is Easter Week we shall probably have more time than usual to enjoy our hobbies, and for that reason can make or do some of the interesting things provided in this issue. If you are going hiking, then there are some useful hints. If you are going caravanning this summer, now is the time to set to work on making the one shown on page 63. If you enjoy "stinks" then be sure to read the new series of interesting chemistry articles. Or if it rains the whole time there is plenty to do with your fretsaw, in the way of Photo Frames, Easter Egg Novelties, Bird Brackets, Ring Games and so on.

THIS week, too, I print the last of the four picture puzzles in our Competition for which a fretmachine and other prizes are offered. Full details are given when and where to send your entry, and I feel sure the novelty of the picture clues are going to bring in a big number. Don't be afraid of it—I want everyone to have a shot and send their entry along.

ANEW series is now being prepared of interesting articles on photography and as many have new cameras, I want them to know how to use them properly to get the best results. Don't be satisfied with 'snapping' anything you see and then taking the film to be finished at a photographic shop. You can get a big 'kick' out of doing the whole job yourself—developing, printing, enlarging and so on. The first of the new series appears next week although, of course, there have already been several interesting articles previously.

HOW many readers have finished making their "Comet" model monoplane, I wonder? I shall be much interested to hear, because a very large number of Blue Prints were sent out—so many indeed that I had to have some more done. They are still, of course, obtainable for 1/2 each, and I hope soon to be hearing of wonderful flights being undertaken this week-end.

NOT a great number entered our Scout "Alphabetical Words" Competition last month and evidently it

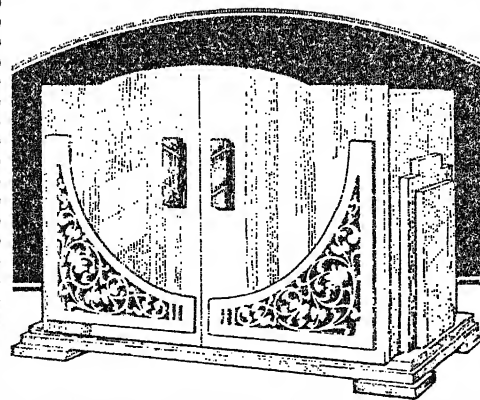
was a little too "brain faggy." Anyhow the winner had thought some out very carefully and had submitted no less than 53. Of these, ten could not be allowed, but even so it was the greatest number sent in. The winner was Robt. H. Bissett of Hodgin Park Crescent, Newcastle-upon-Tyne, and the prize has been duly sent. The words in the list may interest you. They were XS—excess, XL—excel, XLCR—excelsior, XTC—ecstasy, XMR—eczema, MT—empty, Y—why, C—see, P—pea, Q—queue, I—eye, R—are, B—bee, T—tea, LEG—elegy, J—jay, O—Oh!, U—ewe, QR—cure, RER—aria, PR—peer, PRS—peeress, PONE—peony, ODS—odious, OPM—opium, RKDN—arcadian, REN—aryan, SA—essay, IV—ivy, LC—Elsie, L—ell, BC—busy, XQZ—excused, FRG—effigy, NME—enemy, MRE—emery, MR—emir, NE—any, NMNE—anemone, LM—elm, KL—kale, JL—jail.

SCHOOL Exhibitions have been held at many places, before the end of the terms, and I have had some interesting reports of work done and prizes won. Peterborough School included a "Pets" Class of exhibit which is something new in the way of "hobbies."

OTHER Exhibitions have been held by the Rotary Clubs of Exeter and Warrington. The former had 550 entries, but the latter was a stupendous success with no fewer than 1,200 exhibits. These covered a wide range of subjects, with a record number of entries—150—in the community section. There were a number of interesting exhibition models, including some of Hobbies and some by the Post Office. Certificates of Merit were awarded to prizewinners and the judges undoubtedly had a terrific job in sorting the entries.

THE annual hobbies exhibition in connection with the Nottingham and Dist. Model Engineers was also held a little time ago, when models worth hundreds of pounds and representing hours of patience were no view. A unique exhibit here was a model of Ripon Cathedral made from thousands of matches. **The Editor**

MODERN STAND CABINET Free design with next week's issue



MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at 1/- per line per week. Name and address are counted, but initials or groups, such as E.P.S. or G.A. 6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbooks, Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30 32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

100 STAMPS, all different, free to approval applicants sending 2d. postage.—Errington Macquire (O), 51 Atkins Road, London, S.W. 12.

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BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

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HOW TO STOP SMOKING.—Genuine remedy, proved by testimonials.—Write, The Stanley Institute, Ltd. (29W), 21 Warwick Lane, London, E.C.4.

25 STAMPS FREE. Ask for approvals. Oakes, Box 5403, Johannesburg, South Africa.

1-H.P. Petrol Motor, Castings 9/9. Charging dynamos 2 from 15/-. Catalogue 3d.—Butlers, Littleover Works, Derby.

150 STAMPS FREE, including Jamboree, Jubilee and New issues. Request approvals, postage 2d.—Day, “Doonholme,” South Drive, Farsley, Leeds.

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ARE YOU INTERESTED IN INSECTS? Join the Amateur Entomologists' Society. Annual subscription 4/-, including nine Bulletins. Specimen and particulars 3d. from—B. A. Cooper, 61 Okehampton Road, London, N.W.10.

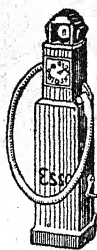
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Realistic Traffic Lights. 7½ ins. high, with 3-lamp switch. With battery.

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Postage 4d.



Petrol Pumps of Esso or Shell. Lights lamp when pumped. 6 ins. high. Complete with battery inside.

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BOYS..... Here's a chance to buy some fine electric working models. If you are making a Doll's House why not get the set of bathroom fittings in polished aluminium.



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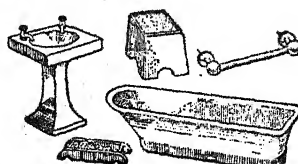
With powerful lens. Stands 4½ ins. high. Well finished and fitted with battery.

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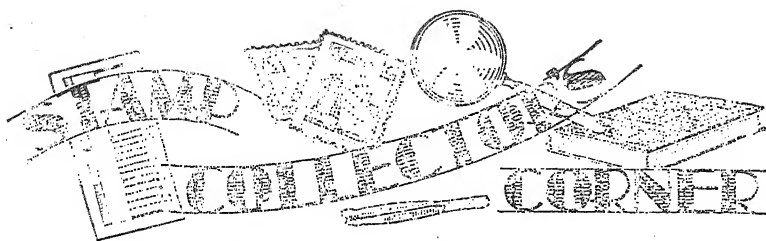


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MOUNTAINS ON STAMPS

(Continued)

IN the preceding article on this topic we could do no more than discuss the mountains which are found in the Americas and in fact we were not able to mention all of those.

Other stamps of the United States of America on which mountains are found are the 3c., 8c., and 10c. of the National Parks sets and on these we see Mt. Rainier, Mt. Zion, and Gt. Smoky Mountain respectively. Later we will devote space to other mountains—those of Europe, Asia, Africa and Australia.

Readers who looked through their own collections and their catalogues will have discovered quite a number which were not mentioned. British Guiana shows one—Mount Roraima.

In 1884, Everard im Thurn ascended this almost unscalable mountain, and on the table-like top he found a veritable nightmare land of rocks like frozen clouds and between them patches of light yellow sand divided by streams and waterfalls.

You will find excellent views of this mountain on the 1 c., 5 c., and 15 cents. of the 1898 Jubilee issue and on the 72 cent of the 1934 issue from that Colony. Canada names and pictures two more—Mt. Hurd on the 1928 issue (10 c.) and Mount Edith Cavell on the one dollar value of the 1930 issue.

Pass from North America into

in the island of Hondo. It is a sacred place of pilgrimage for many centuries of Japanese Buddhists.

This volcano is beautifully shaped, as is seen from the illustration which is one of the four views of Mt. Fuji. They make up the set of 1936. The Fuji-Hakoni National Parks issue. It is also shown on the 1935 stamp of Manchuria. This was issued to commemorate the visit of Emperor Kangteh to Japan.

Considering the volcanic chain of East Asia it is rather surprising that we do not find more examples of mountain scenery. North Borneo gives us Mount Kinibalu on the twelve cents of the 1931 issue. This mountain is just higher than Mt. Fuji being 13,700 ft.

The Philippine Islands show us the Mayon Volcano on the 2c. of the 1932 set. The 32 c. of the same issue gives us some idea of the difficulties of road making in these mountainous areas, for it shows the Baguio Zigzag, whilst on the 26c. of the 1935 issue it shows us how agriculture is carried on on the sides of mountains. Rice terraces.

Australia has not got a single mountain on its stamps. But one of the commonest of the Tasmanian scenic set of 1899 (the 1d.) shows Mount Wellington and the 5d. of the same issue has Mount Gould and Lake St. Clair.

beautiful view of Mount Cook on the 5/-. The pictorial issue of 1935 uses a view of Mount Cook for the design of the 2½d. and of Mitre Peak for the 4d. with a fresh view Mount Egmont on the 3/-.

One of the reasons why all these views make good stamp pictures is that all the mountains extend higher than the snow line. Seventeen mountains are over 10,000 ft. and the snowline is 4,000 ft. above sea level. Mount Cook is 12,350. Ruapehu and Mount Egmont are both below 10,000 ft., but they are well above the snow line.

The highest mountain in the world does not figure on the stamps of India. In fact only on the stamps of the state Nepal (the state at the bottom of the Himalayas) do we see any mountains at all. Actually these are only what one might term representations of mountains.

Ceylon is the only other region near India showing a named mountain and this gives Adam's Peak and the height 7,360 ft.

The most interesting Asiatic mountain found on stamps comes on the 1921 and 1922 issues of Armenia—the 500 and 25,000 r. of the former date and the 2,000 and 5,000 r. of the next year. They give views of Mount Ararat, and naturally one thinks of the Ark in connection with this mountain. For it was here in 2,344 B.C. that the Ark grounded.



A shaping mountain in the Japanese National Park Issue

Asia, via Bering Strait. This is a surprisingly short journey and if you do not know the exact distance, guess it. Then verify your guess by looking it up. Most of you will have a shock.

Anyway, your stamp mountaineering will lead us to Japan to Mount Fuji, the famous volcano



The highest mountain in New Zealand

New Zealand provides us at very little cost with a number of mountainous views. The 1898 set has Mount Cook on the half-penny, Mount Ruapehu on the one penny, Pembroke Peak on the twopenny, Mount Earnslaw on the 2½d., Otira Gorge and Mount Ruapehu on the 5d. and a really



The highest in the African Continent



One of the few volcanoes in Europe

According to various authorities it was a boat of over 80,000 tonnage, 512 ft. long, 87 ft. wide and 52 ft. high, in four storeys. It had to carry over four million lbs. of hay and nearly 2,000 sheep as food.

Africa contributes at least three very famous mountains. The

first is Table Mountain on the lower half of the one penny of the 1900 value. When we have a view on just half a stamp we are rather likely to forget that the small view is probably as authentic as if it occupied the whole of the stamp size.

Mount Kilimanjaro on the 15 c. and 2/- of the Kenya, Uganda and Tanganyika 1935 issue is the highest mountain on the African

continent. There are two peaks, one 16,870 ft. and the other 19,320 ft. Mount Kenya is shown on the 65 c. of the same set.

The only European volcano on a stamp is Heckla which is shown on the stamps of Iceland the 1 kr. of 1935. Another Danish or rather Icelandic mountain is Snæfellsjökull shown on the 15 a. of the 1930 air stamps.

Although this is the only

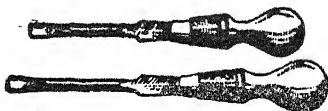
European volcano shown, yet the 90 centimes of the 1929 issue shows the very curious remains of volcanic activity "Le Puy cu Valais." Any one seeing this stamp would be almost certain to stop and examine carefully.

Well, there are some of the mountains, but not all by any means. We have not mentioned Switzerland so there is plenty for you to search out for yourself.

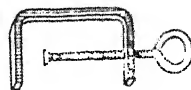
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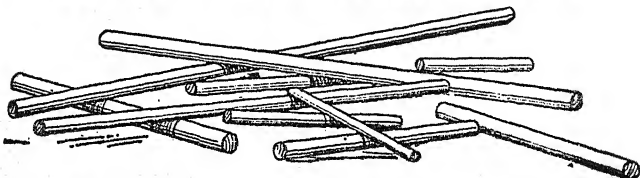


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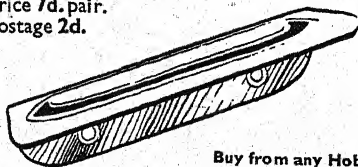
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1/2-inch	Per 3-ft. Length	1d.
3/4	"	"	"	1d.
1	"	"	"	1d.
1 1/4	"	"	"	1 1/2d.
1 1/2	"	"	"	2 1/2d.
1 3/4	"	"	"	3d.
2	"	"	"	3 1/2d.
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The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps, for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

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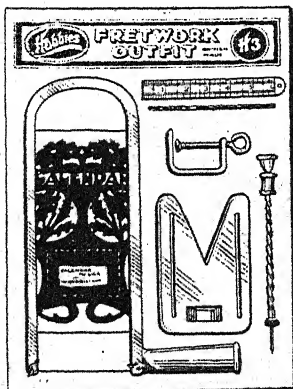
If you are looking for a Fretwork Set about 3/6, you cannot do better than buy this new H3 Outfit. It gives you all you need to make a start, and of course, each tool is of Hobbies guaranteed quality.

The H3 OUTFIT

Contains a 12in. Hand-frame with a dozen spare sawblades, a drill with two bits, hammer, steel cutting table and cramp, a rule, brush, and design and wood.
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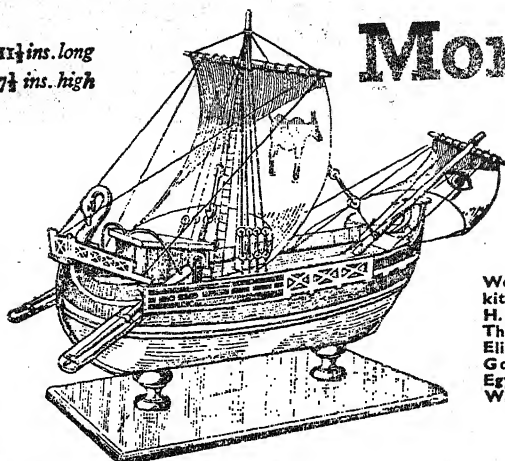
Name.....

Gifts! Gifts! Gifts!

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7½ ins. high



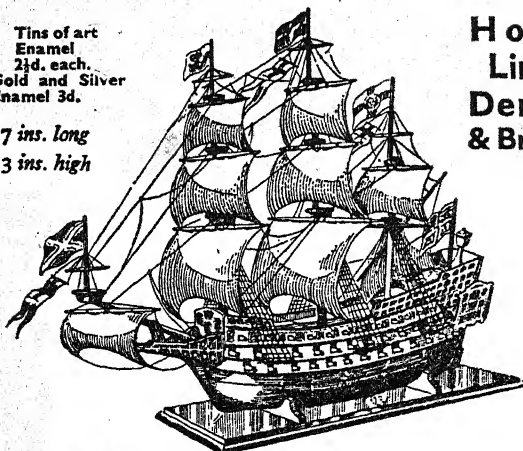
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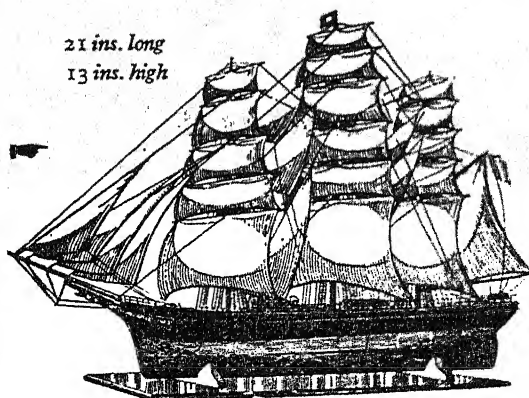


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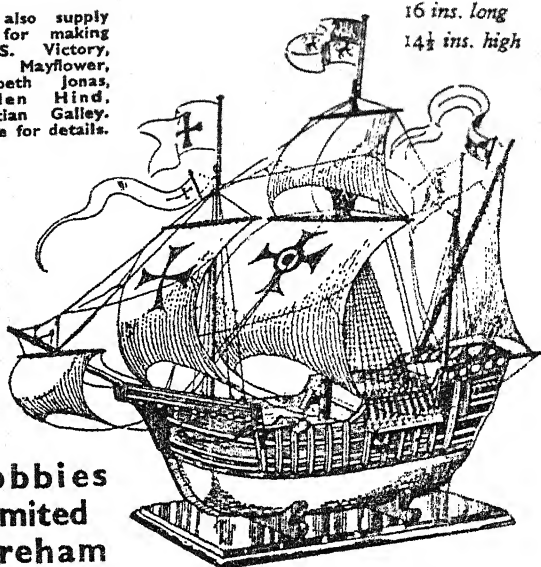
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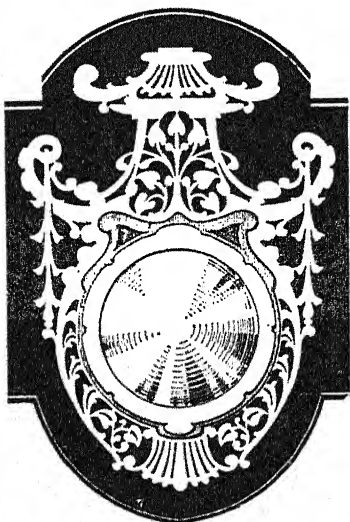


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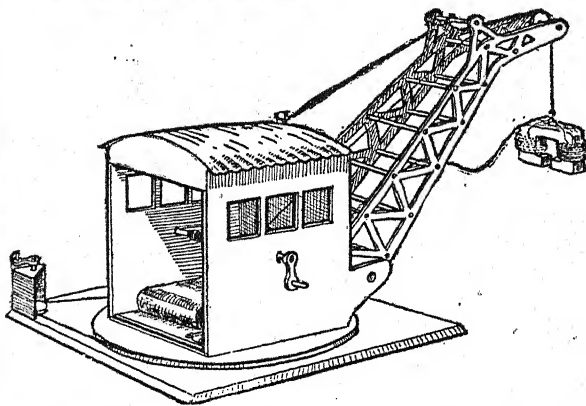
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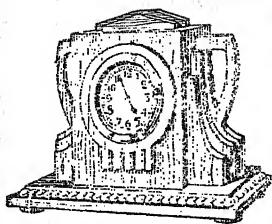
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Vol. 86. No. 2222

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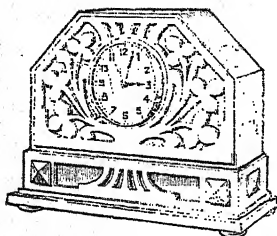
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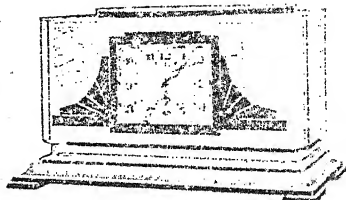


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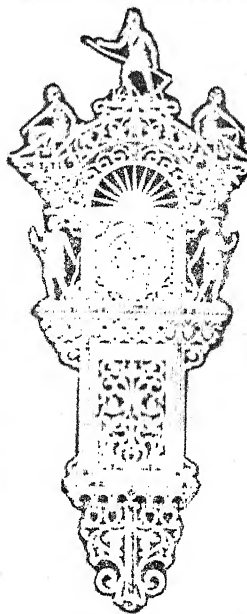
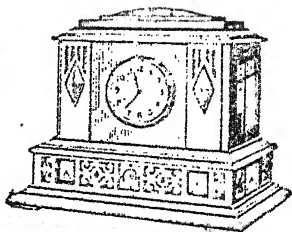


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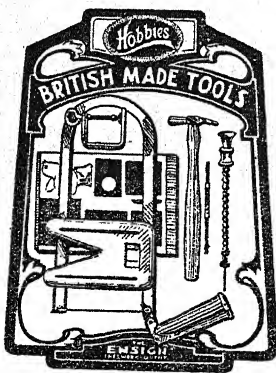
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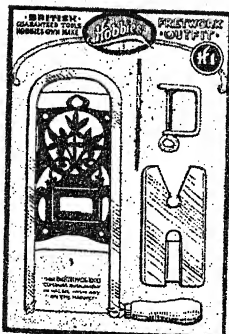
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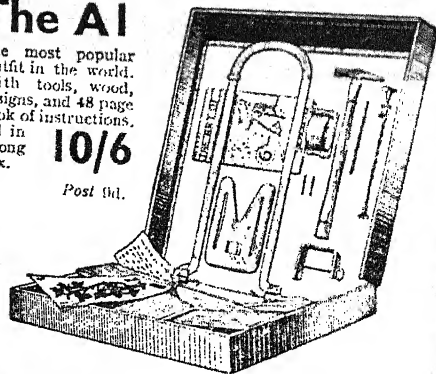
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Hobbies

WEEKLY

May 21st. 1938

Vol. 86. No. 2222

CONVEX MIRROR FRAME

THE design on this week's gift sheet is for a piece of fretwork which anyone should be pleased to undertake. It is a mirror frame, but instead of the ordinary flat piece of glass the one supplied has a convex surface which makes it more of a novelty and certainly more striking.

Moreover, the patterns are only three in number so the work involved is not only straightforward, but not tedious. Indeed, the only real amount of work to be undertaken is in the back itself where we have a design which is incorporating to a certain extent the Japanese style.

The Right Way

By the way, this article appears as though it can be hung either way up, but actually you must notice that it is used the way shown on the sheet. The narrowest point is at the bottom in order that the side ornaments may hang down from the scrollwork just above the mirror.

Although the actual back is just over 12ins. long the part can be cut even with a 12in. handframe. There will only be one or two instances where the saw cannot get direct to the cutting, but even then it is possible to turn the work round and do the small frets from the other end. Such a piece of work as this is made to hang on a wall in a hall or dining room, and as such, some care should be taken in the wood selected for its use.

In the parcel supplied we have whitewood and mahogany in order to get a pleasing result. The mahogany is used for the first overlay, above it in turn comes another rim of whitewood to make the whole thing more striking.

The use of plywood is not to be recommended because there are so many edges

shown that a good result cannot be obtained. Moreover, plywood is always tougher to cut than properly seasoned fretwood, and the worker has to labour considerably more than he should in undertaking the job.

We would strongly recommend, therefore, the purchase of the special parcel of wood provided by Hobbies. This costs only 1/10 and contains three pieces of wood beautifully planed with a semi-glossy surface, and to the size required by each pattern. In addition there is the convex glass which is also supplied ready to fit.

Notice in pasting the designs down that the grain of the wood runs up and down according to the direction of the arrows on the patterns. Apply the paste to the wood, then lay the paper down carefully on to it. In the case of the large back pattern it is a good plan to roll this round a ruler then to unroll it off on to the wood.

Keep Flat

Take care in putting these designs down that there are no air bubbles or creases in the paper. A good plan is to lay it down by one edge first, then draw it across the wood much as a paperhanger hangs a strip on a wall from one end. Have a clean piece of cloth to pat the paper down on to the wood, rubbing it gently from the centre towards the outer edge.

Do not, however, rub too hard or you will stretch the paper perhaps in one direction. Or, of course, you may rip the paper off altogether and tear part of the design off. That only creates the trouble of relaying the whole thing.

Do not, either, attempt to undertake the cutting until the paste has dried. One of the usual faults is the application of too much paste so



that the whole thing takes a long while to dry.

The adhesive can be brushed on quite gently but, of course, should be sufficiently strong to hold the paper in position until the work of cutting has been completed. By the time all three patterns are pasted down, the first will probably be dry enough to start work upon.

The Grade of Fretsaw

Use a medium grade fretsaw (No. 1 or 2) and be sure to maintain an upright blade in cutting. Keep the tension on the saw as much as possible, and hold the wood firmly down to the cutting table with the fingers close to the sawblade.

One of the troubles of the beginner is usually that he is afraid of the work, and in consequence allows the wood to jump about on the table when the sawblade happens to catch its edges. If one is firm with it, however, and holds it down, this can be avoided.

The trouble of this jumping is also sometimes due to too great a haste with the cutting. The sawblade is forced forward too much and digs into the wood where it becomes stuck.

An Even Stroke

A continuous even up and down motion should be maintained without too much pressure being put on to the sawblade to carry it forward. It is not a case of forcing the saw through the wood to cut as far as possible in the shortest time. This is the cause of tired wrists as well as broken sawblades.

Before you commence work, too, look over the design and choose the most suitable positions for the drill. This can save a good deal of unnecessary labour if they are put in suitable places.

Then again, when you cut out a fret on one side of the half way line, it is a good plan to cut the other similar fret on the other side immediately. Because, having done one, you will probably have learned an easier way round or more suitable position for the drill point.

Cutting Hints

Moreover, having cut one, keep your eye on that occasionally when you are cutting the second and similar shape. If then the saw has run off slightly in the first one, and does not spoil the actual design, you can make the same alteration in the second piece in order to get a correct balance.

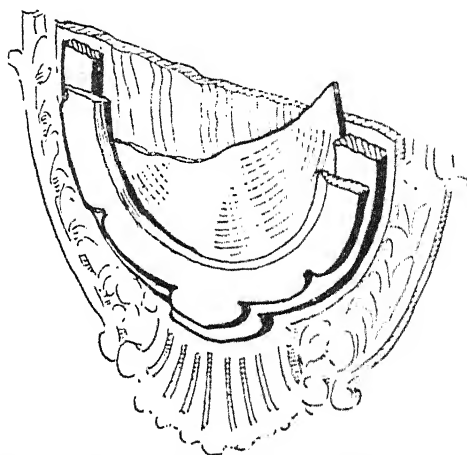
It will be noticed that there is no central hole cut in the back to take the mirror, thus the backboard is a comparatively solid piece. The interior frets must be cut out carefully as usual, and when they have been completed the remains

of the paper pattern are cleaned off with glass paper.

Use a fairly coarse grade at first, but finish up with a fine grade, No. 0, so there may be no scratching on the surface of the wood. Remember, too, to give a light rubbing on the back of the board to take off any saw burr which may have appeared.

Examination of Parts

Go over the piece carefully to see if there have been any little mistakes in the cutting. If so, clean them up with one of the small fretwork files.



A cut-away view showing position of each part and mirror

It is always a good plan to go over the part thoroughly to examine it for little points which have been unnoticed in cutting. Indeed, we have seen some pieces of work where a complete fret has been omitted altogether.

The worker has not noticed it until the paper pattern remains have been cleaned off, then of course, it was too late to alter. Although this may sound silly, it is quite easily done unless you make this examination of the part before the pattern remains are cleaned off.

The other two pieces are merely rims holding the mirror in place, and their position is indicated

in the drawing herewith. The larger one has only two frets in it which come at the top, the dotted lines on the pattern indicating the position of the next rim.

The opening in the centre of this overlay should be just large enough to hold the mirror without allowing it to shake about. A good plan is to lay the glass itself in position and pencil round it to ensure the aperture being correct. Cut and clean this up

CONTENTS

GIFT DESIGN—Convex Mirror Frame

Convex Mirror Frame	169
Breakfast Table Accessory	171
A Plant Tub	172
Electro Magnetic Model Crane	173
League Correspondence Club	174
Chemistry Experiments with Water	175
Sharpening a Spokeshave	176
How to Silver Mirrors	177
Adjusting Your Cycle	178
Fretwork Candle Holders	179
Readers' Snaps	180
Gauge OO Breakdown Train	181
Tinting Photographs	184
Hints and Tips	186
Editor's Notes	187
Candle Holder Patterns	189
Austrian Stamps	191

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as before, and glue in place on the main back.

Chamfering the Overlay

Finally you have the top overlay cut from $\frac{1}{2}$ in. wood—like the other—and glued over the rim when the glass is in position. It is a good plan to chamfer the inner edge of this upper overlay in order to reduce the apparent thickness of the wood.

This chamfering is best done first before the outer edge of the wood is cut. You thus have a larger board to handle and so reduce the likelihood of damage.

Clean the whole part up thoroughly, place the mirror in position, then glue this overlay on. It

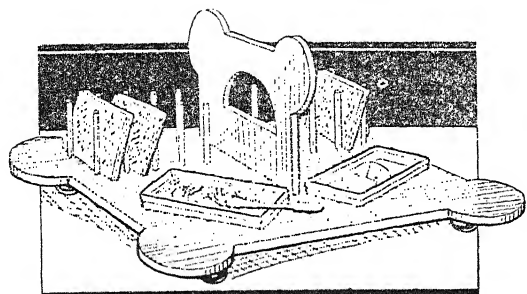
should follow the same circle as the main overlay but, of course, project inside it all round evenly to hold the mirror in place.

If the mirror is not held close to the back of the overlay, put a piece of card or several thicknesses of paper behind the glass to bring it forward. This must be tested out before the overlay is finally glued on.

MATERIAL SUPPLIED

Fretwood.—For making this design we supply a parcel of selected whitewood and mahogany, 1/10, post free 2/4.
Fittings.—Convex Mirror (No. 5726) 1/3, hangers 1d.
Postage on fittings 3d.
A complete set will be sent for 3/6 post paid.

A BREAKFAST TABLE ACCESSORY



WHO says toast and marmalade as a filling to a fellow's appetite after the bacon and eggs? Not half we do! . . . Here then is a handy little accessory that apart from its usefulness for the above-mentioned purpose, also forms quite an attractive addition to the breakfast table. And it will at the same time provide an interesting piece of work that even the beginner at fretwork may tackle with confidence.

As will be seen by the sketch, it combines a toast rack with a holder for both marmalade and butter dishes.

Requirements

Two pieces of plywood, of $\frac{3}{16}$ in. thickness are required. One for the base measures 12 ins. by 9 $\frac{1}{2}$ ins. and the other, for the handle, measures 7 ins. by 6 $\frac{1}{2}$ ins. 6 ft. 8 ins. of $\frac{1}{16}$ in. dowelling is also needed, to cut the 20 pieces for the toast rack.

Then the only other requirements are four little turned feet (Hobbies No. 15 are about right) and the two dishes which Hobbies can supply in a modern design and tastefully finished in gold and cream, for 9d. each.

Fig. 1 shows how the base and the handle are marked out. There are insertions in the base for the handle, the pieces of dowelling that make up the rack, the two dishes, and the four turned feet. When all cutting has been completed, glasspaper the two parts up. Take care to cut all the 20 dowels to just the same length.

The surest way, and one which all carpenters adopt for repetition work, is first to cut a gauge (that is a piece of wood to the exact length less a shade for the thickness

of the pencil), and then use this for marking the others out.

When cut, round these dowels off at the top, with several grades of glasspaper, to give them a more finished appearance.

Assembling the Parts

First glue the handle into the base, testing it with a square to ensure it drying in a dead upright position. Then glue in the toast-rack dowels, testing these in the same way, and finally add the four little feet.

Stain and varnish, or varnish alone, will look quite well. Or alternatively a coat of Hobbies' Ebonizing Solution will convert the work into a really handsome piece of table ware.

CUTTING LIST

1 piece (base)—1ft. long, 9 $\frac{1}{2}$ ins. wide, $\frac{3}{16}$ in. thick.
1 piece (handle)—7 ins. long, 6 $\frac{1}{2}$ ins. wide, $\frac{3}{16}$ in. thick.
20 pieces (toast rack)—4 ins. long $\frac{1}{16}$ in. dowelling.
Also required: Four (No. 15) turned feet; two cream sweet dishes (No. 6030).

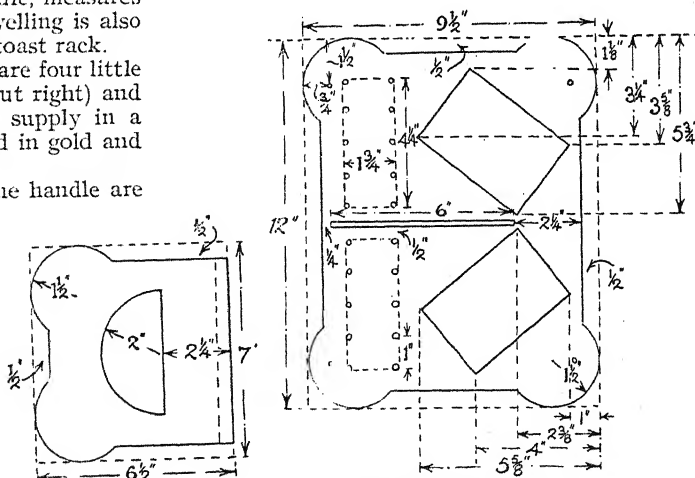


Fig. 1—Complete detail and dimensions of parts

A PLANT TUB

THE Plant Tub and Stand shown is neat in character, and not at all difficult to make. The best wood to use is oak, and when made up it stands 17½ ins. high, and the box or tub is 11 ins. square measured at the top.

The stand construction is easily understood from the two diagrams Figs. 1 and 2. Two rails are cut from 1 in. thick stuff 1½ ins. wide and 14 ins. long. The centres are set out and the halving notches marked out ½ in. on each side. Then the tenons are prepared and marked back 1 in. from each end of the rails, and set in ¼ in. each side of the tenons themselves.

The small diagram in Fig. 2 shows one tenon cut ready for assembly. Fit and fix the top shown at Fig. 1 above the rails.

The Feet

The feet for the stand are made to the outline in Fig. 3. The outline for the handles for the box are also included in this diagram, so both can be made from the one ruled-up squared outline. The squares shown are ½ in.

Each foot is 7 ins. high and 2½ ins. wide, from 1 in. stuff. After the feet have been cut to outline, the mortises must be cut in 1 in. down from the top of the curve as shown.

Care must be exercised if ordinary deal is used for the feet and rails, as any undue forcing of the tenons into the mortises will be bound to split them.

When the tenons are knocked home, two 3/16 in. dowel pins should be put through each joint, as Fig. 2.

The floor, or top square of the stand, should have holes bored to allow air and drainage. It is fixed to the cross rails with countersunk brass screws.

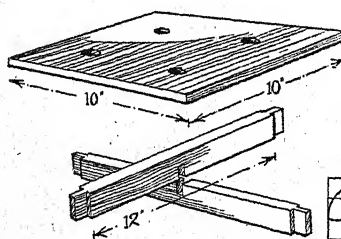


Fig. 1—Holed floor and cross rails

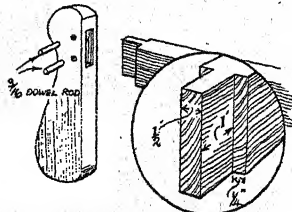


Fig. 2—The fancy feet and rail fixing

This is formed by butting and screwing together four plain ½ in. thick sides, two 1 ins.

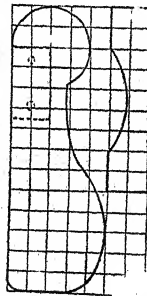


Fig. 3—The shape of the feet and handles

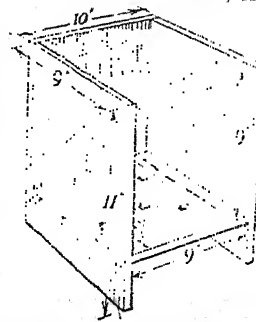


Fig. 4—Constructional details

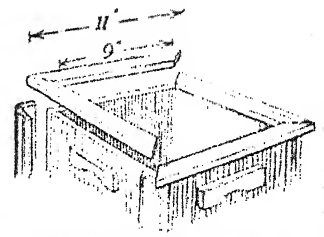
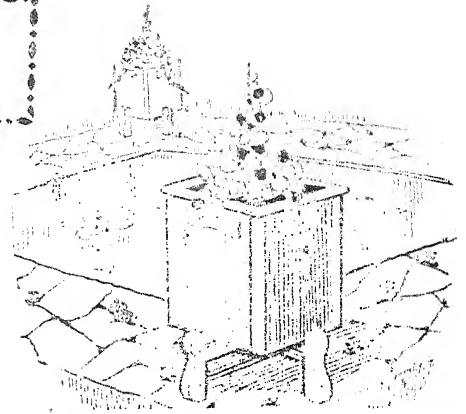


Fig. 5—Upper edge and corner moulding



by 10 ins. and two 1 ins. by 9 ins. All the angles should be properly squared up before they are put together, and then to hide the joints, lengths of Hobbies corner moulding (No. 300) are screwed, as shown in Fig. 5. The moulding extends the whole height of the sides (viz., 11 ins.).

The Box Floor

The floor of the box should measure 9 ins. square, and is ½ in. thick. In it a number of holes must be bored for ventilation as before. Raise the floor into place, 9 ins. down from the top edge of the sides as shown, and then run in some brass screws through the sides. Countersink the holes to make a neat finish when the screws are driven home.

The top of the box is finished around with four mitred strips as in Fig. 5, each strip being 1 ins. long from 1½ ins. by ½ in. stuff.

If the box has been made up from deal, paint the end-grain edges of the sides with lead paint before the top strips are put on. This precaution against damp also applies to the angles of the box which will be covered with the corner moulding.

Fixing the Handles

All that remains is the fixing by two screws each of the handles on the sides. Here again it would be proper if deal has been used, to coat the whole of the box over with lead paint before the handles are put on. Two coats of good oil colour should finally be put on.

If oak has been used, then the finest finish would be stain, if dark tubs are wanted, finished with linseed oil well rubbed into the grain.

EXPERIMENTS WITH WATER

HOME CHEMISTRY



HAVING studied the properties of oxygen and hydrogen, we will now turn our attention to water. Water is a compound of two volumes of hydrogen to one of oxygen. Let us undertake an experiment to prepare them from water.

Lead two thick copper wires into a basin of water acidulated with sulphuric acid. Over the upturned end of each, invert a test tube full of water (see Fig. 1). Pass a current from an accumulator through the wires.

Bubbles of gas will rise and fill the tubes and you will see that one tube is full when the other is only half full. On testing the gases it will be found that the full tube contains hydrogen and the other oxygen.

This proves that the composition of water is two parts of hydrogen to one of oxygen.

More Experiments

The second experiment proves that water is a component of many crystals and its presence may be revealed by heating a little of a substance in a test tube. Try this experiment with copper sulphate. The blue crystals will crumble to a white powder and the water which has been driven

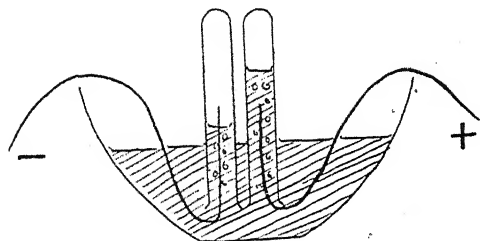


Fig. 1.—Sectional diagram of water experiment apparatus

off will condense on the cool upper portions of the tube.

Allow the white powder to cool and add a few drops of water. The substance will absorb the water very rapidly, giving off a large amount of heat and forming the familiar blue crystals.

Super-cooled Solutions

Some crystals contain so much water of crystallization that it will dissolve the solid portion of the crystal. To prove this, half fill a test tube with sodium thiosulphate (photographers' hypo) and heat very gently.

The crystal will appear to melt to a clear liquid and this is actually a solution of the chemical in its own water of crystallization. Allow the solution to cool.

If left undisturbed it will remain liquid and in this state is known as a super-cooled solution. If

a tiny crystal of the sodium thiosulphate is dropped into the liquid it will immediately solidify to a dry mass of crystals.

Chemical Changes

When a substance reacts chemically with another substance it is said to undergo a chemical change. The following are interesting examples of chemical changes easily carried out by experiment.

Dissolve a crystal of lead acetate in a test tube half full of water and in a similar manner prepare a solution of potassium bichromate. On mixing the solutions a yellow precipitate will be formed. This substance is known as chrome yellow and is used as a pigment for paints.

Another experiment is conducted in the following way. Mix very carefully some small quantities of powdered sulphur and potassium chlorate. Wrap the mixture in pieces of tissue paper to pellets of about the size of a small pea. Place one of the pellets on a stone or metal surface and strike it sharply with a hammer.

The mixture will explode with an exceedingly loud report. These pellets are sometimes useful to the "effects" man of an amateur theatrical society.

A Chemical Garden

Now dissolve some waterglass in about its own volume of water and pour the solution into a jar. Drop into the jar crystals of every salt you possess and leave it undisturbed for a day or two.

Curious tree-like growths of various shapes and colours will be formed. This effect is usually known as a "Chemical Garden."

To Make Jumping Crackers

Obtain some potassium ferro-cyanide and mix with it four parts of sugar and four parts of potassium chlorate. Make sure that the chemicals are finely powdered before mixing.

Prepare some touchpaper by soaking tissue paper in a concentrated solution of potassium nitrate and drying it thoroughly. Obtain a sheet of thin, tough paper and fold it at one end into the form of a trough, as shown in Fig. 2.

Fill the trough with the mixture and at one end stick in a piece of touchpaper. Fold up the paper into a flat tube and close the end which does not contain the touchpaper.

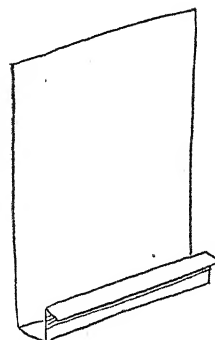


Fig. 2.—How to fold the paper

Fold the tube into the form of a jumping cracker, tying it into shape with thread. The firework is now ready for use and will, when lighted, behave in just as engaging a manner as the commercial product.

Common Mineral Acids

Many substances, commonly known as acids, have been known from very early times. There are three very common acids obtained from minerals and here termed mineral acids. They are at present known as sulphuric acid, nitric acid and hydrochloric acid.

Sulphuric acid is a heavy, colourless, oily liquid which has a strong affinity for water and a highly corrosive action on most substances.

Experiment with Sulphuric Acid

Prepare some litmus solution by pouring boiling water on to a little litmus and decanting the dark blue solution.

Carefully add a few drops of sulphuric acid to a test tube of water and shake well. Pour a few drops of the blue litmus solution into the dilute acid. A red solution will be obtained.

This colour change is used as a test for acids for any substance which changes colour on coming into contact with a liquid is known as an indicator.

Another experiment is to add some sulphuric acid to a little sugar in a test tube. A violent reaction will take place and black masses of carbon will be formed.

Sugar is a compound of carbon, together with hydrogen and oxygen in the same proportions as in water.

Sulphuric acid has such a powerful affinity for water that it combines with the oxygen and hydrogen of the sugar, leaving the carbon as a bulky black precipitate.

It is because of this affinity that sulphuric acid chars most of the organic substances with which it comes into contact.

Nitric Acid

Nitric acid is a heavy liquid, generally yellowish in colour, which stains the skin yellow and dissolves nearly all the metals. It will, of course, turn blue litmus solution red and here are some interesting experiments in connection with it.

Place in a stand six test tubes, each containing a small quantity of nitric acid. To each test tube add a fragment of one of the following substances: Sodium carbonate (washing soda), marble, copper, zinc, iron and magnesium.

These solids will dissolve with violent effervescence, the marble and washing soda giving off a colourless gas and the metals a reddish brown gas.

Hydrochloric Acid

Hydrochloric acid is actually a gas which is known as hydrogen chloride. The commonly known hydrochloric acid or spirits of salt is a concentrated aqueous solution of the gas.

In connection with this, you can repeat the previous experiment using hydrochloric acid. You will find that the copper will not be attacked but all the other solids will dissolve, giving off a colourless gas.

Sharpening a Spokeshave

MANY woodworkers do not know how to sharpen the blades of their spokeshave properly, whether it is one belonging to an iron or wooden stock. Happily, these young sinners are in the minority and the fault is steadily decreasing. A few usual hints and tips on sharpening and getting the best results should help the good work even more, so gather round, lads.

How to Grind Blades

First and foremost, remove the blade from the wooden stock by tapping the tangs alternately with a hammer—not by banging them on the bench. Look at the blade and give it a grind if necessary. The grindstone should be a small bench type and not the broad treadle affair.

When new, the blades are hollow-ground outside and inside. To grind it, however, you grind the inside only, not the polished outside hollowing. The bench grindstone enables you to get at the inside.

Holding the blade between the fingers and thumb of the left hand, with the cutting edge pointing away from the hand, set it on the stone and turn the handle at an even speed. The wheel should revolve towards the blade and not away

from it. A tin of water should be handy to prevent over-heating.

When ground nicely and with the cutting edge slightly concave, sharpen it on an oilstone slip by rubbing first the inside, then the outside alternately to remove the burr. Feel for the burr by pushing the thumb lightly across the edge or up the flat of the blade. If you do not possess an oilstone slip, use the side of an ordinary oilstone.

To sharpen the blade of an iron spokeshave, it is—owing to its size—well worth making a wooden holder for same. This is really a handle about 9 ins. long with a broad end in which a saw cut has been made to suit the thickness of the blade. Cut the kerf slot deeper than necessary, then drill two holes right through for iron carriage bolts fitted with thumb-screws.

Having inserted the blade halfway, the bolts can be tightened and the grinding and sharpening carried out as previously described. Now, when a blade has been ground and sharpened until it is just a slender piece of steel and iron, do not throw it away as useless. By grinding a chisel-like point on the tangs, these are ideal for cutting slots under the bearers of drawers for the snibs of locks.

HOW TO SILVER MIRRORS

QUITE a number of "Hobbies" readers, judging by their queries are in difficulties with mirrors that have become spoiled by damp, or got otherwise damaged, and many of them enquire how they may convert an ordinary piece of glass into a looking-glass. Let us consider it.

In the "good old days" a sheet of lead foil was laid down on a bench and treated with mercury, which produced a bright alloy on which clean glass was floated. The method took several weeks to complete, because periodically the glass had to be tilted to drain off the superfluous mercury, until at last the amalgam was dry. But apart from the time taken by such a method, mercury is not a very pleasant thing to handle, because its vapour is poisonous.

The Ingredients

But nowadays mirrors are made much easier and quicker, by participating silver from a chemical solution upon glass that has been made quite clean.

Purchase from your chemist a bottle of distilled water, 180 grains of silver nitrate, 150 grains of caustic potash "pure by alcohol," 75 grains of glucose, and a small quantity each of nitric acid and of liquor ammonia.

Now clean three tumblers and a small bottle with dilute nitric acid, which will leave them chemically clean, and then rinse them with distilled water.

In Tumbler No. 1 place the silver nitrate and 3 ounces of distilled water. When the nitrate is dissolved, transfer half an ounce of the solution to your bottle which we will call No. 4. Be careful that this solution does not touch your fingers, otherwise your skin will get blackened.

In Tumbler No. 2 put the potash with two and a half ounces of distilled water.

In Tumbler No. 3 put the glucose and add two and a half ounces of distilled water.

Adding the Ammonia

To Tumbler No. 1, now add a few drops of the ammonia to cause a muddy brown colour to appear. Add more ammonia drop by drop, until once again the solution is clear and bright. (Use a glass stopper for the bottle of ammonia. A cork will soon be eaten through).

Now take Tumbler No. 4, and add some of its contents to Tumbler No. 1 drop by drop, until for a second time the solution loses its clearness. If

you hold it up to the light it will appear to be of a yellow colour.

Now, to Tumbler No. 1 add the potash solution from Tumbler No. 2. This will give you a blackish liquid. Again add ammonia drop by drop, and stir with a glass rod until the liquid becomes clear, and until you observe that a powder falling to the bottom of the vessel is full of black particles. Strain through a cotton wool filter, or if you have time, allow the precipitate to settle, and then pour off the clear liquid. To this clear liquid add, drop by drop, more of the silver nitrate solution, until the slight precipitate appears, when you must instantly stop.

A Dish for the Glass

Now get a dish—a photographer's glass developing dish is just the thing—if it is large enough to accommodate the glass to be silvered. Set the dish level, pour in the solution, and add distilled water to give sufficient depth. Before putting in your glass, pour in the glucose from Tumbler No. 3, stir up, and then introduce your glass, slanting it, so that it will not carry air bubbles down with it.

Don't allow the glass to settle at the bottom of the dish. You can easily prevent this by putting two blocks of glass or wood at each end to allow at least a quarter of an inch between the underneath surface of the "mirror" and the bottom of the dish.

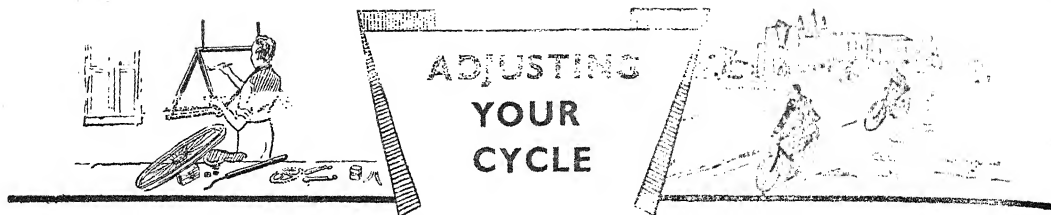
Wash and Dry

As you lower the glass into the solution, the latter becomes of a purplish pink, and gradually grows darker. In about a quarter of an hour the silver will have deposited itself on the glass, which may now be removed, carefully washed and placed on edge to dry. When it is quite dry, the silver may be polished with a pad of cotton wool covered with a fine washleather. The silver may now be coated twice with a good copal varnish to protect it from contact with impurities in the air.

Right and Wrong Side

The glass you use should be "patent" plate, and remember that it has a right and a wrong side. You will know which is which by breathing on them after they have been chemically cleaned. The moisture of your breath will leave the right side rapidly and evenly, while the moisture on the wrong side will dissipate slowly and irregularly. You should, of course, silver the right side.

You should enter our Monthly Photographic Competition. Good cash prizes. No entrance fee. Look out for full particulars next week



IF your cycling is a toil instead of a pleasure, the probability is that the machine is badly adjusted. An occasional inspection and overhaul, with an eye to the true running of the various parts, will usually work wonders.

Attend first to the transmission—the bottom bracket bearings, the wheel bearings, the chain, and the sprockets. Unless these are running sweetly, a very appreciable amount of your energy will be needed simply to overcome the stiffness. Oiling alone will not necessarily remedy the fault; the bearings must be properly adjusted.

The bearings of the bottom bracket, where the big chain wheel is situated, can usually be adjusted without disturbing the pedal cranks. Adjustment is effected at the side opposite to the chain wheel, and the first step is to loosen slightly the large locking-ring.

Cone Adjustment

Then the inner cone ring can be adjusted until the chain wheel and cranks spin freely. There should be no side-play, however, and it is wise to test the freedom of the bearings with the cycle chain removed, so that the cranks are fully free to revolve.

Special spanners for this adjustment are supplied with many bicycles. Finally, the locking-ring should be retightened, so that the correct adjustment is retained. If you have never attempted to tune such bearings, you will be wise to make your first attempt under the guidance of an expert cyclist. Any club rider will probably be willing to instruct you in the art.

Note the Bearings

Actually, it is sometimes advisable to fit new steel balls into the bracket bearings, if the aid of an expert cyclist can be enlisted to supervise the work. The cost of new balls is very small, and by renewing them it is much easier to attain correct adjustment.

In renewing the balls, carefully count the number that are being removed, and insert only the same number of new ones. In many cases it will be found that an extra ball could be squeezed in, but this should not be done.

The Wheels

After the bottom bracket, the wheels. Here again the rule is to provide just the ease of running which will allow the wheel to spin freely, but without the presence of side-play. The adjustment should be such that the weight of the tyre valve is sufficient to carry the wheel part way round the circle.

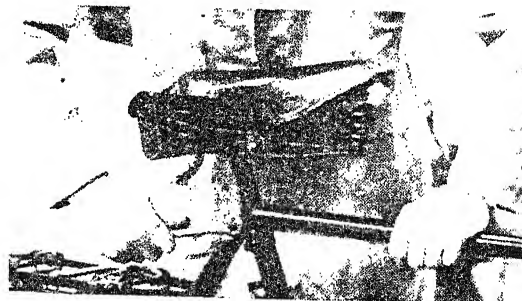
The outside nuts of the spindles must first be loosened; then the adjustable cone which is part of the wheel bearing can be adjusted. Remember that cycle wheels have a cone and a ball-race at each end of the hub, but that both bearings are adjusted by means of the cone at the side opposite to the free-wheel.

A thin cone spanner will be needed to get at the cone; the spanner is inserted between the end of the frame forks and the outer end of the hub.

After adjusting, the necessity to tighten the spindle nuts must not be overlooked, but, before this is done, attention should be given to the alignment of the wheel and the tension of the chain.

Chain Tension

Correct alignment and chain tension is achieved by adjusting the small nuts attached to the chain adjusters, which are at the very end of the frame forks. Tightening or slackening these draws the wheel backwards or forwards, but if one nut is adjusted more than the other, the wheel will be drawn slightly askew.



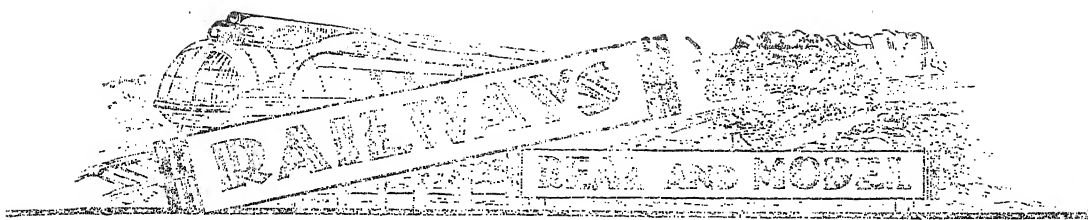
Attention to saddle height is important for comfort or speed

The aim should be to have the wheel running perfectly straight in the forks. At the same time, the chain should be neither too tight nor too slack. Tightness means not only very stiff running, but rapid wear of both chain and sprockets; excessive slackness encourages the chain to jump off.

Simple Tests

Adjust the wheel so that the chain links can be appreciably lifted from the chain wheel, but cannot be removed. Another test is to see that there is about $\frac{1}{2}$ in. up and down play on the horizontal stretch of chain.

Adjusting the front wheel is accomplished in much the same way, except that no chain adjusters are provided.



THE completion of the outfit for the breakdown train, the actual crane for which was described in the issue for January 29th last, is a fairly simple task. A rough idea of the equipment is given in detail at the foot of this page. Here it will be observed that a small tank engine is followed by the crane itself, with its jib-bearing match-truck, along with a 6-wheel workmen's van, two low-sided wagons carrying tools, lighting facilities, jacks, baulks of timber and so on, these loads being covered with tarpaulin sheets, and at the end of the train a heavy six-wheeled brake van.

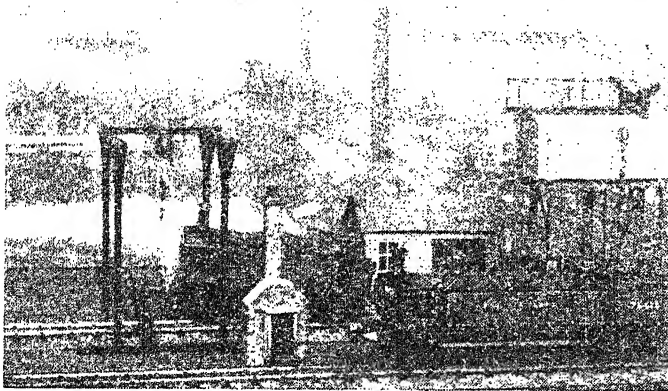
The frequent practice is to convert an old passenger suburban coach for the use of the workmen, and therefore this vehicle usually follows the passenger coach type of construction—longer axleguard springs, larger disc wheels, etc., and the coach sides generally show one or two of the former

and is furnished with a work-bench along one side for light repairs to the mechanism. At a large model locomotive depot all this correct provision can be made.

Beginning with the workmen's van, which is shown full size for OO-gauge in detail Fig. 1, the method of construction follows the form offered by Merco standard coach parts. A coach top and floor in wood, duly rebated to receive the celluloid strips, are cut to the exact length required.

AN OO GAUGE BREAKDOWN TRAIN

(Concluded)



windows boarded up or altered to panels, and maybe one or two of the doors eliminated. The remaining stock of the train is of the standard goods variety.

The placing of the crane itself next to the engine has many determinants, the chief one of which is that usually the crane is provided at the locomotive depot with a special storage shed of its own, having opening doors at each end.

Making the Train

The entire train is pushed through the shed and the rear portion detached, after which the crane is drawn under cover, its valuable nature as machinery requiring this precaution.

The shed itself is generally of the fireproof type

The ends of the coach are metal fittings costing a nominal sum only and properly shaped to exact size. These serve as supports for the top and floor. After gluing and sprigging them in place, the celluloid strips are also glued in and the thin masks of white card are cut to cover the entire sides. Bristol-board is good for this purpose.

The position of the window and floor apertures are secured by millimetre measurement from the drawing, the squares marked out and afterwards removed with the aid of a razor, cutting on a thicker piece of cardboard or plywood.

This having been done, the sides are glued in place with a really strong adhesive and carefully pressed down until thoroughly set. Then the roof covering is cut from a piece of drawing-paper, the wood surface as well as the paper being evenly but thinly coated with adhesive, and the paper stuck on. The overlap at the ends can be cut exactly as required when the whole is fixed.

For the solebars underneath the sides either OO-Gauge running-rail or $\frac{1}{8}$ -in. strip tinplate, machine cut, may be used, or any other thin strip metal. The width required is $\frac{1}{8}$ -in. as stated, and if the material is a little narrower it does not matter seriously so long as the coach axleguards are screwed in to allow clearance for the wheels, which are 14-mm. in diameter on the treads.



The buffers are soldered into the holes in the metal ends provided for them. In fixing the guards it will be necessary slightly to pack them up from the floor by inserting a length of tinplate strip, so that the rather large wheels will absolutely clear the floor in turning.

This is a simple matter. Another length of such strip is soldered on to form the upper step, at the base of the solebars, and the lower step consists of the smallest type of brass angle obtainable,

which is $\frac{1}{4}$ in. by $\frac{1}{4}$ in. and has one side filed down to about $\frac{1}{32}$ in.

The gaps in the back of the step to receive the axleboxes are also filed out and the steps then soldered to the axleguards at the base, a length of stripwood being inserted between them and the top step as a guide. The dummy vacuum pipes are a standard product costing a few pence each.

Before fixing the axleguards it is a good tip to take a $\frac{1}{16}$ in. twist drill in the fingers only and

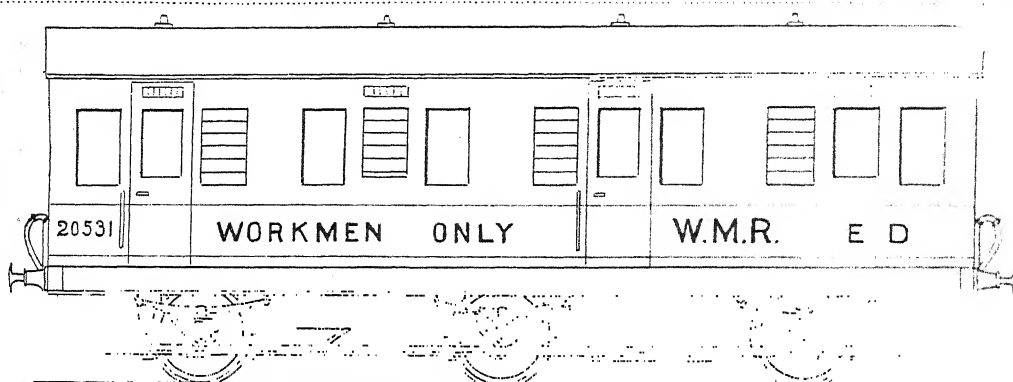


Fig. 1—Full size detail of workmen's van with end view below

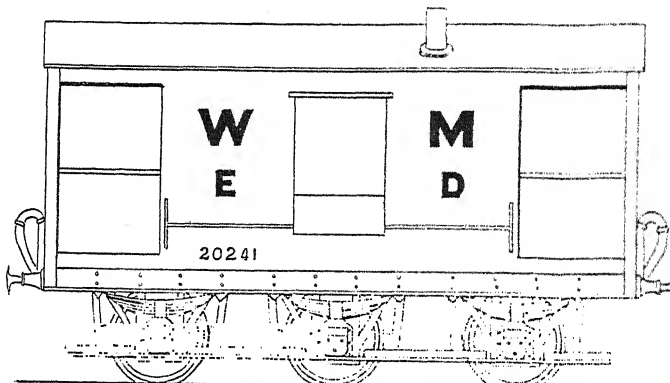
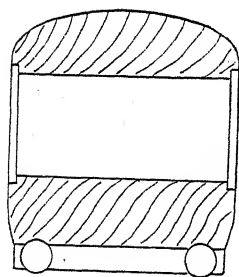
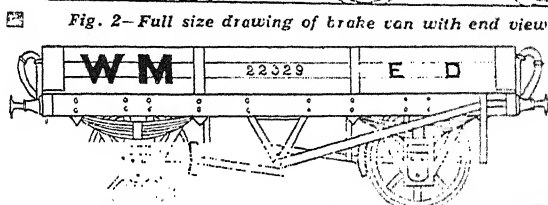
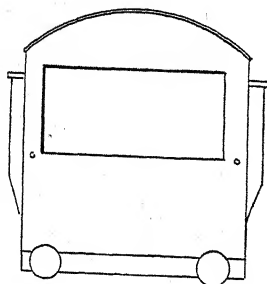
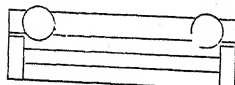
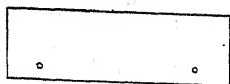


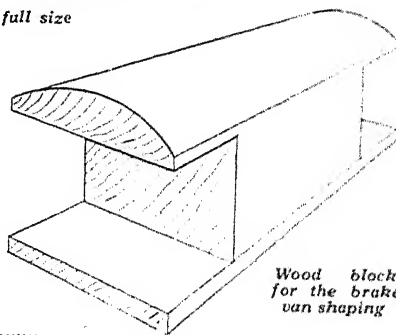
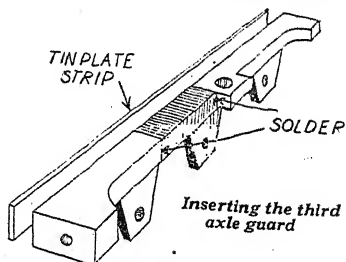
Fig. 2—Full size drawing of brake van with end view beneath



Open goods wagon, full size

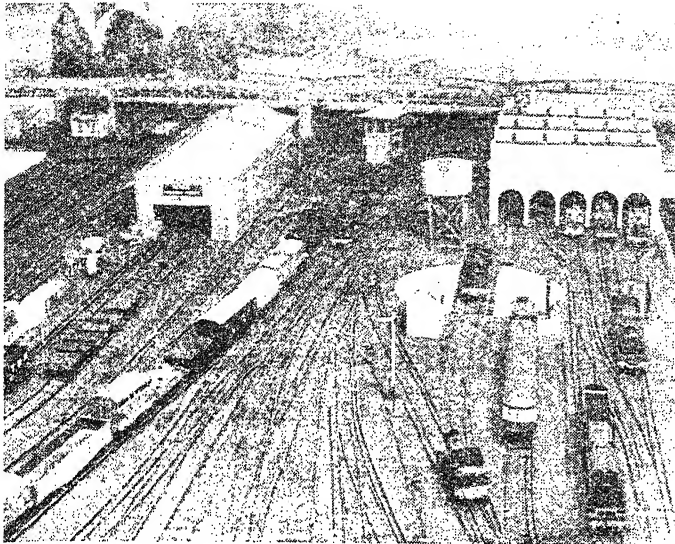


End views of open wagon



to turn it down right into the journals of the guards. This will ensure free running later.

The dummy brake shoes, if these are desired, are formed from small strips of metal filed to shape. The lamp tops add the finishing touch and can be had commercially.



A photograph of the author's own OO layout

The ballast wagons are entirely standard throughout. In using the soldering iron, always rest it on the wire bar across the V-hangers, only touching the soft white-metal parts for a fraction of a second, and using a non-corrosive soldering spirit with a tiny morsel of solder.

The only parts requiring any alteration are the hanging bars for the brake shoes, which will need about $\frac{1}{4}$ in. snipping off. The brake parts require cleaning up with a file before fitting, as they are only rough castings. Clean out all the holes with a common pin, forced through with pliers.

Wagon Chassis

The metal parts for the wagon chassis are all standard, and the wooden sides and ends also, as well as the floor.

There are, as already indicated, two of these vehicles. The loads are simulated by means of small lengths of stripwood glued together, and the tarpaulins can be ideally made from common cellophane, off cigarette cartons, painted flat black on one side only and fixed with this painted side uppermost.

The pieces are cut roughly to shape and carefully tied on with thin black thread, care being taken not to interfere with the free movements of the wheels in passing the threads under the wagon. The ends of the tarpaulins may be best attached where they fold over by using small pins, two at each end.

The Brake Van

The brake van also is made up from standard fittings in the main, though, since it is a six-wheeled vehicle, it is necessary to build up the axleguard frames from the standard sets fitted and

soldered together, the middle guard, with its small section of solebar, being inserted as shown in Fig. 2, in the perspective sketch.

Here it will be seen that a standard bar is cut in two and a piece snipped out of the middle. The shaded portion of the drawing indicates the special piece inserted, which is part of another bar.

The soldering must be carried out so that the finished job is exactly straight in line throughout, and so that the new axleguard is just in the middle. To cover the visible part of the solebar, a piece of $\frac{1}{4}$ in. tinplate strip may again be used, this being tacked on to the bar with a touch of the iron.

The buffers screw into the holes prepared for them. Remember first to drill out the journals with the finger-twisted drill. The axleguard bars are then screwed to the floor block, additional small screws being used at the ends, and the bars should allow the wheels a side play of about $\frac{1}{16}$ in. Spoked wheels are used for both the van and the wagons.

Van Body

The van body is cut from a Merco van block to the shape shown in the other sketch. This is screwed or glued to the floor-piece. The outer ends go on the ends of the block and are cut from plywood about $\frac{1}{32}$ in. thick, the apertures being made with a razor.

These ends are mainly secured by the buffers which pass through them into threaded holes in the solebar ends, a couple of pins and glue serving to retain the ends at the top. The roof is then fitted as on the workmen's coach, and the steps are exactly the same. Dummy lookout windows on the sides are cardboard strip with shaped caps at the tops. Handrails are of pins bent to shape and forced into the sides.

The cutting of the headstock of the van to take the coupler is best done by sawing with a metal saw into the end, as far as the floor, and close up to the fixed buffers, two cuts. Then snip out a piece at a 'V' with each saw-cut and file out the remainder flat with the coach floor. Your coupling then will fit perfectly.

Painting the Parts

The train should be painted in the same colours as the crane, and the lettering may, when the paint is dry, be done with a tiny brush and process white water paint, a strong magnifying glass being of great value. But transfers of the right size can be had. The lettering is in white, and the ground colour of the vehicles can be either dark grey or flat blue. Use no varnish, though a little fixative (a spirit varnish used by artists) can be thinly coated over the lettered sides.

The door handles and rails are all formed from pins. Make the holes for the pins by using a pin for the purpose, aided by pliers.



TINTING PICTURES

DID you ever try tinting your snaps? It is just as fascinating as photography itself, if not as interesting, and makes a splendid sideline if you cared to take it up, whether for pleasure or something in which to specialize to make a little profit.

By means of different colouring sets manufactured by a well-known photographic firm, you can tint garden snaps, park scenes, etc., realistically, as well as retouching faded and cherished photographs.

Naturally, you do not need to be an artist, for the black-and-white outlines are there to guide you; but a natural "taste" for colour is highly desirable—a colour-sense that is, which makes for realness and picturesqueness generally.

Care of Detail

Care of detail—if it is there—is important. For instance, it would be awfully silly to go and colour the stem of a flower red or tint the petals of buttercups a blue shade instead of yellow or make primroses pink.

Therefore, a little knowledge of flowers and trees and so forth is necessary, although you could attempt the fantastic colourings now and again.

Happily, nearly every boy (and girl) is well acquainted with the natural tints of most objects, and as the colouring is transparent, it is very easy to follow the make-up of a snap and produce excellent, lifelike pictures.

There is a small majority of readers who do not possess this colour ability, however, and to them we would advise studying paintings, flower catalogues, landscapes and the like.

Water Colour Stamps

As previously stated, there are various colouring sets ranging from 2/6 up to 6/- each. The transparent water colour outfit consists of a "book"

of 12 different coloured paper leaves, each leaf being perforated into 26 stamplike squares. The little squares are detached and dissolved in water to make the tinting solutions.

The tints are ideal for colouring lantern slides as well. The outfit also contains three special tinting brushes in a neat box, the lid forming a useful mixing palette should you require an odd shade. You know, of course, that when two different colours, such as yellow and blue, are mixed together they make a green. A knowledge of this mixing (best found by actual experiment or through a book on the subject) is very useful when you happen to run out of a particular colour or shade.

The given outfit costs 6/- complete. The books of water colour stamps are sold separately at 2/6 each. Three pencil brushes, a fine, medium and a slightly bigger size only cost 1d. anywhere.

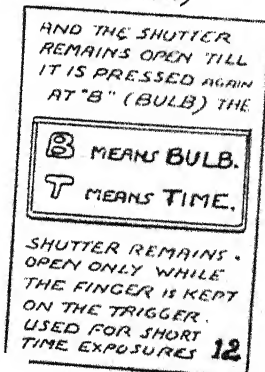
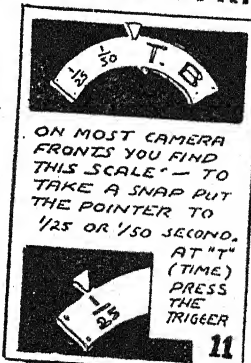
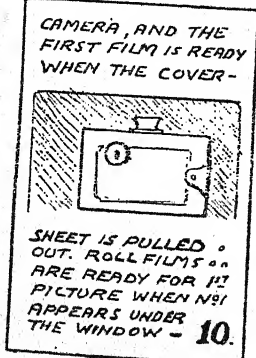
Other Outfits

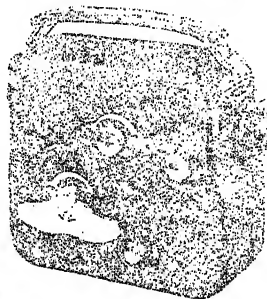
Instead of using water colours, you can obtain soluble crayon outfits, same comprising seven 3½ in. coloured pencils, a bottle of medium and roll of cotton wool, the price being 2/6, with full instructions. The crayons are easier to work with and should always be kept well pointed.

Do not press heavily, otherwise you will make unsightly impressions on both the front and back of the picture—just a light touch is essential, the solution helping towards application and "killing" the slippery glaze surface.

Another set is that for retouching and working up prints and negatives. It contains a pencil-holder, three refills, a retouching medium, spotting medium and spotting brush, the lot costing 3/6. The bromide retouching set is used mainly on bromide enlargements. Enthusiasts will find the retouching very interesting, particularly with enlargements reproduced from hazy negatives, in which case the "fogging" is greatly accentuated and must be corrected as the worker thinks fit.

OUR PHOTOGRAPHIC FEATURE STRIP (Continued)





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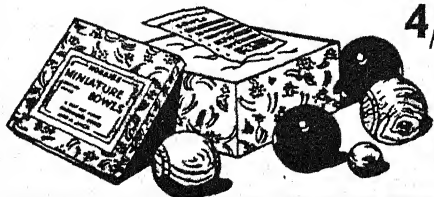
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J. A. Bennett

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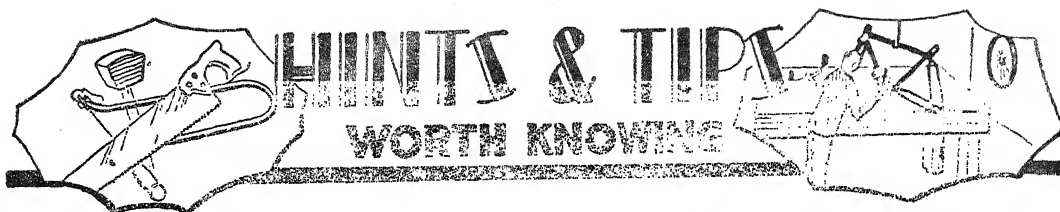
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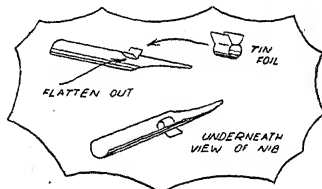
Dept. 62, THE BENNETT COLLEGE, SHEFFIELD.



For original Tips published the sender will receive two dozen Fretsaw Blades. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

A Pen Tip

IF you are troubled by having to dip too frequently into the ink pot when writing, you try



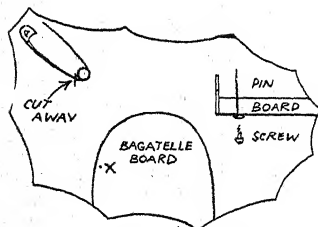
this. Get a piece of lead foil, or tin foil, and bend it into the shape shown. This will enable you to write a page or more with one dip. —(R. Cole, Bulawayo, S.A.).

Stamp Pockets

TRANSPARENT pockets for stamps can be made easily if you cut a piece of postcard a little larger than the stamp. Get a piece of cellophane paper a little larger than three sides of the card. Glue edging down to card, and you have a neat pocket. —(D. Brogden, Nuneaton).

Bagatelle Improvement

A FEW days ago I made a Bagatelle board using 1/4 in. plywood for the base and I hit upon the idea of fitting a good spring pin in place marked X. First obtain a good safety-pin, using the part, as on sketch. Drive a panel pin into the board then remove same. The hole will be just the size for the safety-pin



to be inserted. A small screw can be screwed through the ring of the safety-pin if it is found to be a bit loose. The tension of the pin can be easily adjusted by pressing the pin backwards or forwards. —(H. W. Scurrell, Lowestoft).

Swing Gate Improvement

THE following tip is very handy to prevent garden gates from scraping along the ground when opening. Let the vertical end post of the gate be about 4 ins. longer than the other, and sharpen this to a point. Now invert a bottle with a concave base into the ground and place the pointed post in it. The gate will thus swing easily. —(R. Morton, Johannesburg).

A Design Alternative

WHEN making the Perpetual Calendar Design No. 2039 instead of putting paper figures for the dates, put in wood ones. Cut out dotted circle as shown on pattern, then cut out the figures. Before gluing in the figures stain the background, as this will make it more outstanding. —(E. Lodge, Ash Vale).

Stand Stop

IN the Hobbies Gem designs, there is a watch stand and I have thought of an idea for it, which is suitable for others as well. Get a piece of very light chain and tack it to stand and strut and then it will not slip on a polished surface. —(R. Cowdery, Edgware).

Crossword Solution

Here is the correct solution of the "Chemistry" Crossword in last week's issue.

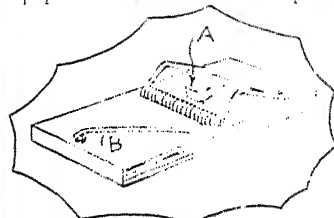
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A		S	O	D	A		T	A
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S	T							

Steam Preventer

ROLL a narrow strip of flannel into a ball, drop a few drops of glycerine on it, and rub on to a glass surface. This will prevent steaming of windows, or eye glasses, and is good for preventing water collecting on a car windshield. (F. Todd, Leigh, Lancs.)

A Paper Holder

THE other day after I had bought a mouse trap I thought it a good idea for holding papers. I took off a few parts



which are shown on the sketch and enamelled it with black enamel. I have bent the wire as you can see, because I find it holds better and can hold more papers. One may keep the letters, papers, etc. with this quite easily and safely. —(P. Brower, Johannesburg).

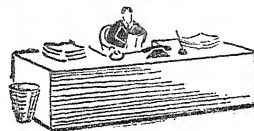
Book Ends

THIS will improve your book-ends, either old ones, or the ones published in Hobbies Weekly, dated 28/2/38. Take a piece of thin wood about 1/16 in. thick, cut to the width of the book-end and about 6 ins. extra in length. Glue and screw this to the base and this will stop the ends from slipping or tilting with the weight of the books. —(N. H. Overton, Herne Hill).

Chemical Fire

TO make fire with chemicals is quite a simple matter. First obtain some glycerine and some permanganate of potash crystals. Put a teaspoonful of the crystals in a paper and add a few drops of glycerine. Screw up paper and put down quickly. In a few seconds the paper will burst into flames. —(R. Johnson, Ashton-under-Lyne).

The EDITOR'S NOTES



THERE is another delightful range of things to make and things to do in this issue and I am sure every reader will be itching to start on some of them. Whether you want a little breakfast table jam dish and toast holder, a hanging wall mirror, a plant tub for the garden, to know how to sharpen a spokeshave, to adjust a bicycle, or to build OO railway models, there are details and drawings to help you. No wonder more and more readers take our Hobbies Weekly regularly and cause the newsagent to say "Sold Out" more than ever.

IN several of our woodworking articles we give squared drawings of various details or parts which can thus be drawn out full size, as required. But even this simple method seems to be beyond the ability or trouble of some readers and so I must do even more for them. Well, if you want these squared drawings full size, ready to put down on to the wood, I can let you have them. They will be supplied on tracing paper to save you further trouble and will be the actual size required. But I must ask you to pay 6d. for them, because there is a good deal of work involved, and the paper alone sometimes costs that amount.

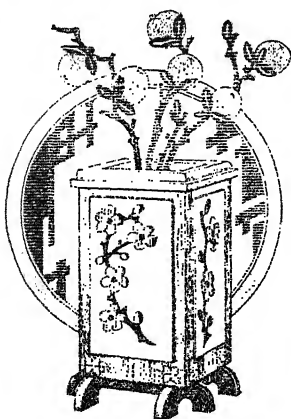
INTEREST in model aeroplanes is increasing considerably and more and more readers are getting much help from our various articles on the subject. In response to many requests, too, I hope to have drawings and details for making in wood those tiny scale models which, when suitably painted and finished, are such an attraction. The first will be for making that popular and vicious fighter the Hawker Fury, and I hope to have the details and drawings in an issue shortly. I shall be glad to hear what you would like it to be followed by, so you can in time build up a whole mixed aerodrome of tiny aircraft.

THERE are, as I am always saying, very many different ways of advertising your ability to cut and sell work. I am, too, frequently hearing of other methods and am always glad to pass on the hints. The window display is always one of the best and if you can persuade a local shopkeeper to allow you a

corner to show the goods it will prove excellent publicity. Of course, you may have to allow the owner a small commission on your sales, because, after all, that will only be in payment for the services which he has rendered.

MENTION of a window display reminds me of a recent letter from W. J. Watts of Walthamstow and the unusual result to him. "I put my work in our front window when finished," he writes, "and had the unusual experience of a class of boys with their schoolmaster on their way to football, stop outside my house while the master discoursed on my work. I may say I felt pleased to think my efforts were appreciated to that extent. I am now engaged on doll's furniture for a little girl's birthday gift and have made railway station, engine shed and signal box, Gothic clock, grandfather clock (miniature), fairy clock and the last lion clock lately given away, football game, two workbaskets, Japanese flower vase, fern pot, holder and many other small jobs, all in a space of two years. I only wish I had more time and money to spend on the work."

MANY readers I know are interested in Photography and will I hope enter our Competitions. They will also be glad to hear of another series of competitions being run, in which good cash prizes are offered for simple subjects for each month of the year. A descriptive leaflet giving you full particulars is free on request, if you mention Hobbies, to Johnson & Sons, Hendon Way, Hendon, London, N.W.4. By the way, these people have a very helpful book on photographic chemicals and if you mention it will, I feel sure, be pleased to let you have a copy.



**This fine
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I HEAR of a good fellow who has just completed the model of a church in wood. It took him three years and 34,608 matches. A marvellous effort surely, but I am wondering how long it took to get the matches, or who had the job of counting them! Probably if he counted again he might make it 34,609. Who knows? The modeller concerned was Mr. J. Mitchell of Warnham, West Sussex.

The Editor

CRAMPS

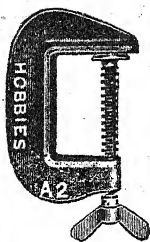
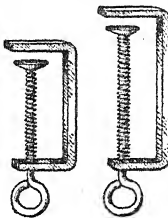
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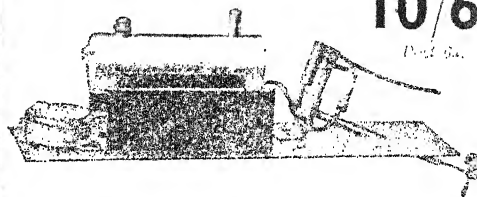
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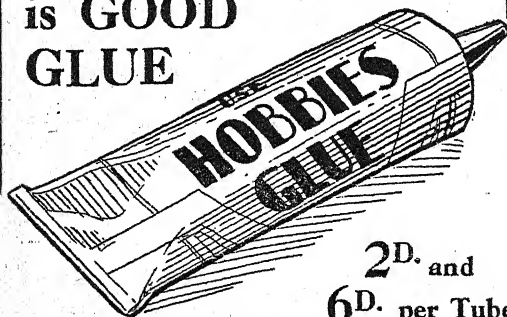


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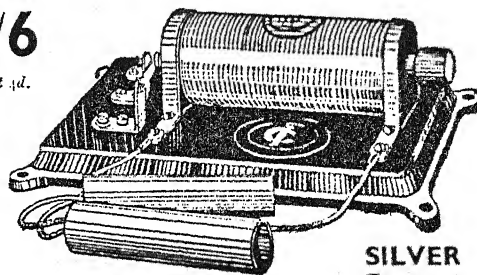
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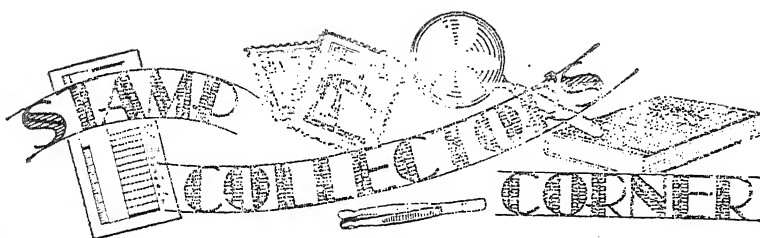
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AUSTRIAN STAMPS

(Continued)

THE second part of the story of the stamps of Austria (see *Hobbies Weekly*, dated April 23rd), starts with the declaration of the Republic in 1918. To signalise this the issue of 1916 was overprinted, but in the next year the new stamps came out.

These must be represented in all collections surely—there were three designs, one was a posthorn, another was the Republican Arms, and the third is illustrated. The design is supposed to represent the planting of a new life, a tree, and this means the birth of the new Republic. The higher values of the same set showed the Parliament Buildings.

The year 1921 had a fresh set, when the design was similar (that of the Republican Arms) but the stamp was wider than before. In 1922 came the set showing an ear of wheat, and a hammer and pincers. By the way, have you realised that the latter stamp does bear these emblems? They are not easy to find.

Now we have another change of currency, that which is in force today, though it seems probable it will change!

The four designs of the new set are no doubt well known. Then

same designs on another set. These, curiously enough, were printed considerably smaller, the illustration is of one of this issue and shows Wortherssee.

Some have suggested economy as a reason for this change, and well it may; anyway the set has earned for itself that title.

The set for 1934 is always considered one of the best of its kind, showing as it does a number of different costumes of various regions of Austria. Actually it might well be the subject of a complete article, for each costume might be described and reasons given for particular parts of the design.

In July 1934, Dr. Dollfuss was murdered, and by October they had issued a mourning stamp bearing the portrait of the late Chancellor. Danhauser's painting "Mother and Child" was used as a basis for a Mother's Day stamp in 1935, and then another Dollfuss stamp came out for the anniversary of his death.

Of the Air stamps the pride of place must go to the set issued in 1935, showing, as it does, all the beautiful views. An aeroplane is always somewhere in the sky, but never obscuring the picture.

of two or three heller on these. Floods in 1920 called aloud for help, and the 1919 set (posthorns, etc.) was overprinted for this.

Austria has seemed each year to single out a certain class of her subjects for helping, and in 1922 she issued the very beautiful set of musicians. Mozart, Haydn, Beethoven, Schubert, Bruckner, Strauss and Wolf all appeared on stamps.

Unfortunately, one cannot help feeling that the philatelist was perhaps a little badly treated in these cases, because the stamps were sold at such an enormous premium, ten times their face value!

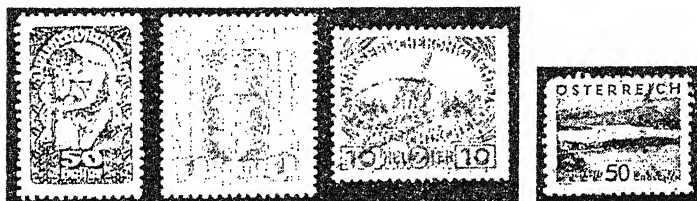
Needy artists next came in for assistance, and this was in 1923. Austria then had a set of beautiful pictures, and these are worth keeping as works of art. The premium in this case was fairly high, being six times face.

The 1929 set was for the same fund, but the stamps were not nearly so good, the extra being three times. 1926 set was in aid of child welfare, and the subjects of the designs of the six stamps were illustrations of legends.

As one would expect, 1928 gave rise to a stamp in commemoration of the tenth anniversary of the Republic, and Dr. Michael Hainisch is shown on a set in aid of war orphans and invalid children.

President Miklas appears on the 1930 Anti tuberculosis. Austrian writers, and painters figure on the 1931 and 1932 respectively; while in 1933 there was the International Ski championship as the theme for designs. The Philatelic Exhibition in Vienna called for a very special effort, and the result was that beautiful stamp "The Honeymoon." Austrian Architects, Heroes in 1934 and 1935, then the Ski championships again in 1936, while Austrian inventors appear on the 1936 stamps.

These last are a little more interesting in that in each case there is a small inset showing for what the man is famous. For instance, in the case of J. Ressel, there is a portrait of the man together with a small picture of the boat's crew.



New Republic Hammer and Pincers

there is a view of what is generally described as 'plains,' and on this readers will note that there are telegraph wires and stooks of corn. The chief products of Austria are wheat, barley, oats, etc.

The next values had a picture of an eagle on mountains, while the higher values had a view of Minorite Church, Vienna.

In 1929 Austria had a very nice set of fourteen stamps with different designs, or rather views, while in 1932 she produced the

War Charity

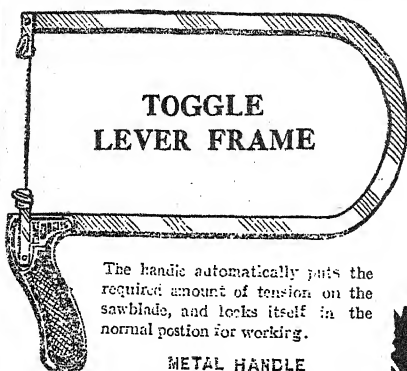
These one would like to describe in full, but let us hope that even this brief mention of them will enable readers to place them in the proper chronological order.

Now we are to deal with the Charity stamps which have been issued, and these are very numerous. The year 1914 saw the start of the stamp premium as a means of raising money, and one of the first set is shown here.

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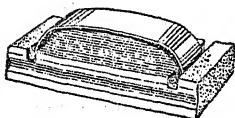
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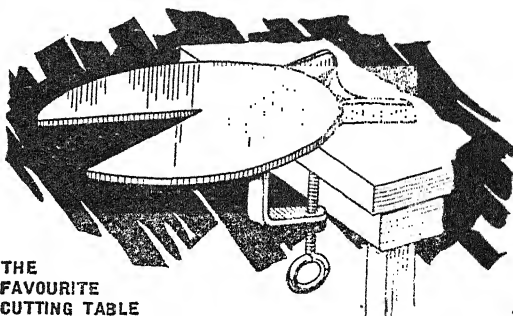
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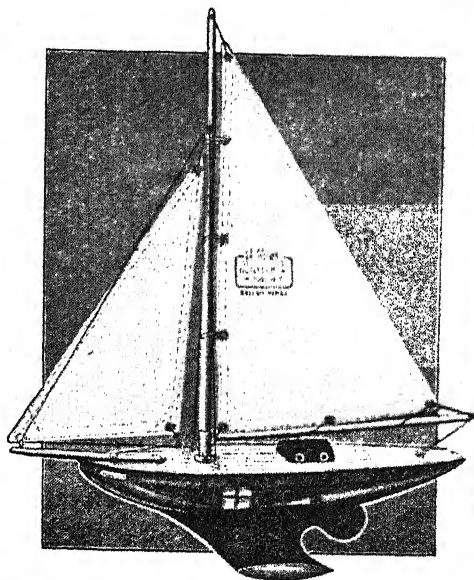
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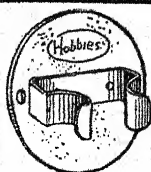
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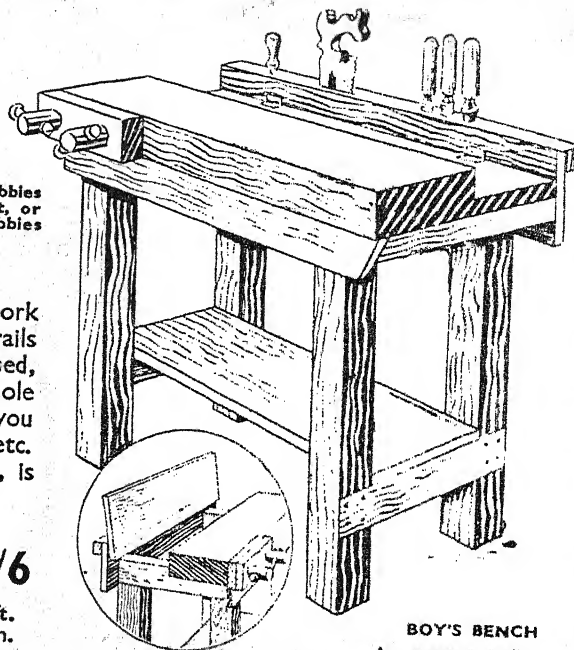
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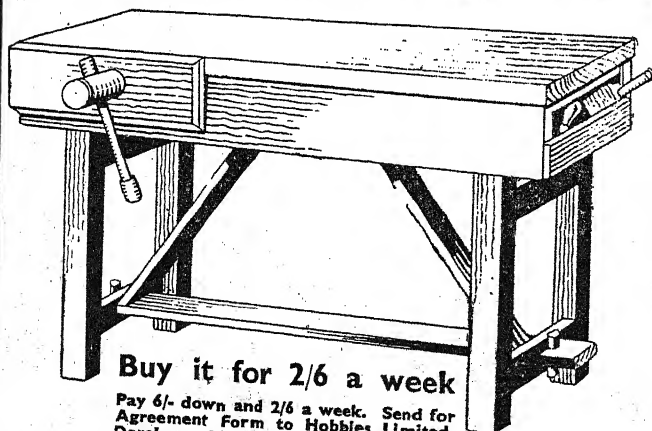


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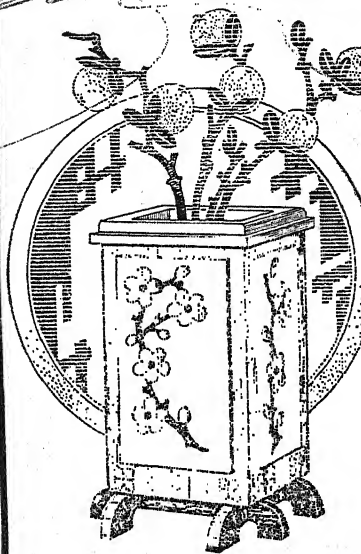
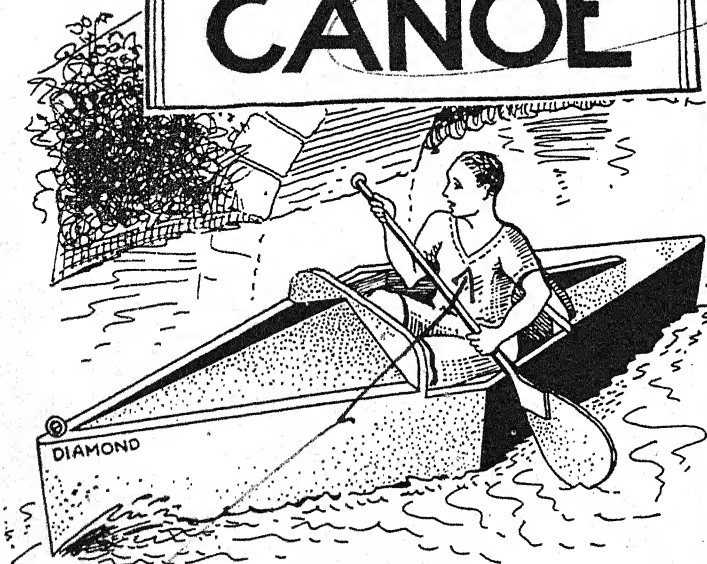
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Hobbies

WEEKLY

AN ALL-WOOD CANOE



Full size Patterns
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**WOOD INLAY
TABLE STAND**

2^D

Vol. 86. No. 2223

May 28th. 1938

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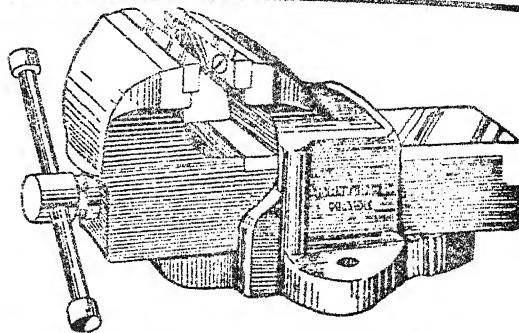
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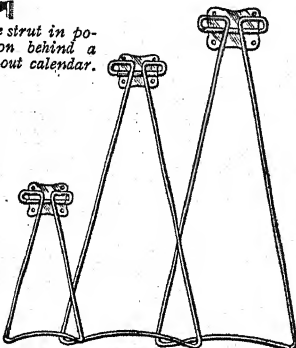
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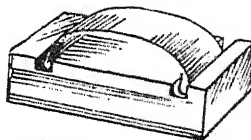
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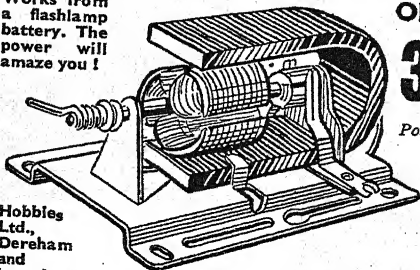


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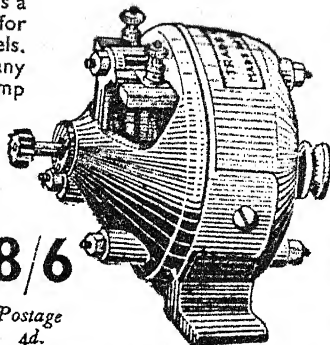
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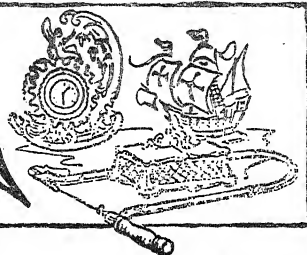
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Hobbies

WEEKLY



May 28th. 1938

Vol. 86. No. 2223

JAPANESE TABLE FLOWER HOLDER

THE handsome little Japanese Stand illustrated here can be cut in fretwood to make a very attractive article for any table or sideboard, and is just the thing for holding those fancy flowers or dried decorations such as cape gooseberries, which are always popular.

The Stand completed is 8½ ins. high on a base 4¼ ins. square, and is cut from odd pieces of wood to the patterns illustrated in the centre pages of this issue. If you want the wood ready to use, cut in the appropriate sizes and already planed, we would advise you to purchase the materials as set out herewith.

They save a lot of trouble in measuring up and obtaining the different boards, and we can guarantee that they are all of good quality and suitable for their job.

The Wood to Use

We have selected mahogany for the main work with other boards of satin wood, padouk, mahogany and whitewood for the rest of the overlays and decorative panels.

Actually, the panels on the side are inlaid in wood and are so simple that they provide an opportunity for those who have never previously undertaken this class of work, to try their hand out at it now.

Care in Cutting

The work is straightforward, and merely means cutting three thicknesses of wood instead of one, but as each thickness is only 1/16 in. the total is not beyond the ability of the ordinary user of the fretsaw. If, of course, you have a machine, so much the better, because then you have both hands free to turn the work as necessary.

The great point in the use of the handframe is to ensure that

the saw is upright, because you see, the parts in the various woods fit together like a jigsaw puzzle.

If, therefore, the saw is not upright, the under piece of wood of the four will be slightly larger say than the top piece, and in consequence will not fit in to, make a good joint.

How to Cut Inlaid Work

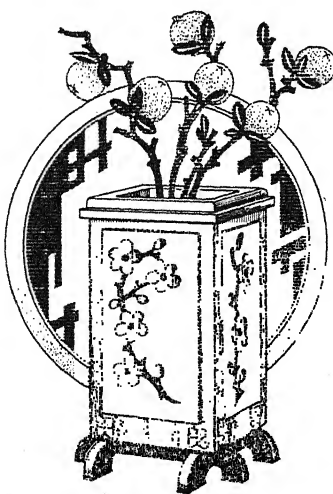
If cut properly, the whole panel is perfectly flat without any greater difference than the width of the sawblade between the adjoining pieces. If, too, a fine saw is used, this space is very small indeed.

A complete instruction article on this inlaid work is given in the Hobbies book "The Art of Fretwork," and we recommend any reader who is going to undertake it for the first time, to read this particular chapter. The cost of the book is only 7½d. post free.

A good idea of the construction of the Stand itself is shown in the illustration herewith, and this should be studied before the design patterns themselves are got out. In order to save space, it will be noted, several of the designs are put inside others, and in consequence they must be taken off separately and transferred to the respective pieces of board.

In most cases, however, they are plain rectangles so there is really no need to paste the paper patterns down to the wood. Just lay the pattern on the wood, then with the point of a compass or an awl, prick carefully through at each corner. Take the paper away and join the holes up with a pencil. Take care, of course, not to make the line too thick or it will make a difference in the actual dimensions.

Check off that the angles are square, and notice, too, the



thickness of each board from which the part is cut. Rim No. 1 shown on the left of the patterns is $\frac{3}{8}$ in. thick, and has an inner rectangular opening $1\frac{1}{2}$ ins. by $3\frac{1}{4}$ ins. Piece No. 2 is of the same thickness, and has an exactly similar opening cut in the middle of it, although actually its outer edge is slightly smaller than piece No. 1.

Main Stand Framework

The sides themselves are in $\frac{1}{2}$ in. wood, and here again are plain rectangles all measuring $7\frac{1}{2}$ ins. high. Be careful to get the edges of these all straight, so that when glued together they butt up to each other satisfactorily and with a strong joint. As can be seen by the diagram the two narrow sides go between the two wider ones, and the floor goes inside the opening at the bottom.

This floor is a piece $3\frac{1}{2}$ ins. by 2 ins. which should fit in snugly and be glued to strengthen up the whole thing. If you have not got quite tight joints at the corners, you can easily strengthen them with blocking pieces or triangular fillet.

The two feet are halved together by the joint at A then the whole thing glued under the bottom of the upright box frame. Note that there is an equal projection of the feet at each side.

The top is formed by the two rims (parts 1 and 2) which are glued on in that order. The larger is underneath and the smaller one on top.

The Inlaid Work

The latter, by the way, has its upper outer edge rounded off slightly to make it more shapely. The panels on the side, as has been mentioned, are intended to be cut out as a piece of inlay work. You need four pieces of $1/16$ in. wood—for preference, satin wood, padouk, mahogany and whitwood.

These are chosen because of their contrast in colour so when the completed panel is finished you have a striking bright effect in wood. Nail the four boards together outside the lines of the pattern which is pasted on the uppermost one.

Make a drill hole at some point, then saw round each part. From these four pieces which come out, you can pick the ones required to make the most suitable picture.

When you have the four boards nailed together, you have sufficient to make two complete side pictures. Although, of course, you cannot have them in exactly the same wood on each side.

For instance, if you use the whitewood for the background in one instance, you should use the satinwood for the background in the other instance. You will, however, be able to get quite a good combination, and if we suggest one, you

should quite easily make up the other.

With whitewood as a background you can put the main branches in mahogany, the flowers in satinwood with their centres and the branch berries in padouk. The other side will be the reverse of this, but when completed will make a distinctive and quaint piece of work.

The main background panel is glued to the side

MATERIALS SUPPLIED

Fretwood.—For making this Stand we supply a parcel of Mahogany with inlay woods of Satinwood, Padouk, Mahogany and Whitewood, 2/9, post free 3/3.
Fittings.—Eight Rosettes (No. 5408) 6d., post free 7½d.
A complete parcel Wood and Rosettes for 3/9 post paid.

of the holder, then the various small pieces of coloured wood put in to complete the picture.

When all the parts are in place they are given a thorough rubbing of glasspaper, and finally a finer grade used to bring a smooth unscratched surface. If you think it better, you might like to put the overlay panels on the sides before the box is built up. Cut the side out as previously mentioned, glue on the overlay, then when all four sides are complete, glue the whole thing together with the operations previously mentioned.

Fretted or Painted Panels

If you have not been able to complete the side panels in inlay, you may like to add them as ordinary fretwork overlays.

In this instance, cut the surrounding background in a piece of $\frac{1}{2}$ in. wood, then cut the outline of the fancy flowers and branches in a piece of $1/16$ in. material. Paint on this last overlay the outline of the flowers, etc. and fill in with inks or poster paint as you wish. You can get quite a good effect in this way.

Or another alternative is to leave the fancy pattern off altogether and to add one of the coloured transfers shown in the Hobbies Handbook.

In the case of the inlaid work, you will have a perfectly flat surface, and this lends itself to polishing. The parts can be polished individually before being put together if you wish, or the whole

thing stained and glazed up after constructional work has been finished.

On the other hand, to follow out the modern tendency of contrast and dark features, you may like to treat the whole thing with paint. The Japanese effect would be more pronounced possibly if you did the whole of the stand body in black, with the raised inlay panel left with the wood in its natural state or just polished.

CONTENTS

Japanese Flower Holder	193
All-Wood Canoe	195
Camp Gadgets to Make	197
Toy Pull-along Cargo Ship	199
Model Aircraft Topics	200
Electro Magnetic Crane	201
Novelty String Box	202
Japanese Table Stand Patterns	204
Fretwork Hints	207
Modern Oak Cabinet	209
Replies of Interest	211
Hints and Tips	212
Editor's Notes	213
Stamp Tour of Belgium	215

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THE "DIAMOND" ALL-WOOD CANOE

HAVE you longed to make yourself a canoe, but given up the idea because of the difficulty of bending the sides to the keel, bulkheads and stem and stern posts? It is because of this drawback—to many young enthusiasts, at least—that the "Diamond" Canoe has been specially designed and offered herewith as a cheap, simple, reliable and up-to-date craft that will be popular and fashionable on our lakes and rivers. It is a canoe that will be noted for lightness and speed, in spite of the fact that it is made entirely from wood.

As its name implies, the shape takes the form of a flat diamond or lozenge so that the sides are quite straight and only require to be block-jointed in the centre as shall be described.

Deal boards (10½ ins. wide by ½ in. thick) are used throughout, same meaning lightness, cheapness and above all—buoyancy. The length of the canoe is 7 ft. 6 ins., with a beam of 21 ins. It has watertight compartments at each end and is a model suited for a tall youth or two small boys.

A man's size would be about 9 ft. long, with a beam (width in centre) of 24 ins.

Shaping the Bottom

The first thing to be made, of course, is the bottom of the craft. If you use the deal boards suggested, see that they are free from "dead" knots and cracks as much as possible. Two 7 ft. 6 in. lengths are doweled together or ½ in. grooves ploughed along the joining edges and a tongue of plywood inserted. The dowels (½ in. diam.) serve as a keel of wood, is later screwed to the underside.

MATERIAL REQUIRED

	Deal or spruce
2 floor boards ..	7 ft. 6 ins. by 10½ ins. by ½ in.
2 bulkheads ..	18 ins. by 10 ins. by ½ in.
2 fore sides ..	4 ft. 6 ins. by 10½ ins. by ½ in.
2 aft sides ..	3 ft. 6 ins. by 10½ ins. by ½ in.
1 fore deck ..	48 ins. by 18 ins. by ½ in.
1 aft deck ..	30 ins. by 18 ins. by ½ in.
1 seat piece ..	20 ins. by 15 ins. by ½ in.
1 seat back ..	16 ins. by 2½ ins. by ½ in.
1 seat support ..	12 ins. by 2 ins. by ½ in.
1 keel lath ..	7 ft. 6 ins. by 3 ins. by ½ in.
1 deck shield ..	18 ins. by 6 ins. by ½ in.
1 breakwater block ..	18 ins. by 5 ins. by ½ in.
1 breakwater block ..	6 ins. by 3 ins. by ½ in.
2 gunwale blocks ..	9½ ins. by 8 ins. by ½ in.
2 corner blocks ..	9½ ins. by 2½ ins. by ½ in.
1 plywood cover ..	28 ins. by 20 ins. by ½ in.
2 bow blocks ..	10 ins. by 2 ins. by ½ in.
2 nose pieces ..	10½ ins. by 1½ ins. by ½ in.
1 mast step ..	6 ins. by 6 ins. by ½ in.
1 paddle handle ..	29 ins. by 1 in. by ½ in.
1 paddle blade ..	12 ins. by 8 ins. by ½ in.
1 segment piece ..	12 ins. by 6 ins. by ½ in.

NOTE.—The fore and aft decks are joined up from the waste from canoe bottom. The above lengths are not all nett.



When the glue—waterproof or otherwise—has set hard, smooth both sides of the join with a plane and mark out the diamond shape. Working with a large set-square and a straight lath of wood, square off the inch of waste at each end, then mark the central beam line across, including the position of the fore and aft bulkheads.

The width of the beam (see top view at Fig. 1) is 20 ins. Simply rule the lines from point to point. Remove the waste with a panel saw and plane the edges straight and true. This is imperative in view of the hull sides which are secured to same.

Attaching the Sides

The seat board (measuring approximately 20 ins. long by 15 ins. wide) is shaped and fixed in place with glue and ¾ in. flathead iron screws, including the bulkheads which are attached with longer screws.

The sides consist of two fore boards about 4 ft. 6 ins. long and two aft boards about 3 ft. 6 ins. long. Bevel the central joining edge of one to suit the angle of the bottom and secure it temporarily with 1½ in. by 6 flathead brass screws, then bevel and fit the other half and affix similarly. Keep the screws about 9 ins. apart and drive three into the bulkheads, i.e., at top, bottom and centre.

Gunwale Blocks

Having attached the boards to one side of the bottom, cut the fore and aft ends flush with the points of same (see cut-away top view at Fig. 1) and proceed with the other side in a similar manner. Gunwale blocks are shaped to fit inside and screwed temporarily in position as seen at Fig. 2.

The blocks and sides are removed one by one and given a liberal coating of thick paint prior to screwing in place again, the paint being more waterproof than glue. When inserting the screws, plug the holes first with putty.

The screw holes must be countersunk so the screw heads are slightly below the wood surface for covering with plastic wood or putty.

Stem and stern blocks are fitted, painted and screwed in place. Corner blocks are glued to the aft bulkhead. If desired, lengths of stripwood could be glued to all interior corners.

If, however, the interior is given a coat of creosote, plus a couple of coats of thick paint, such blocking would not be essential. As further strength, $1\frac{1}{2}$ in. flat nails are driven in between screw spaces. The nose or bow and aft blocks are shaped and secured with glue (or paint) and large flat nails or long, thin screws.

The Decks

The decks, if made from the waste pieces of the bottom, must be joined by one or the other methods explained. Square one end of each deck, then place them flush with the bulkheads and mark the desired shape with pencil.

Remove the waste and attach both decks

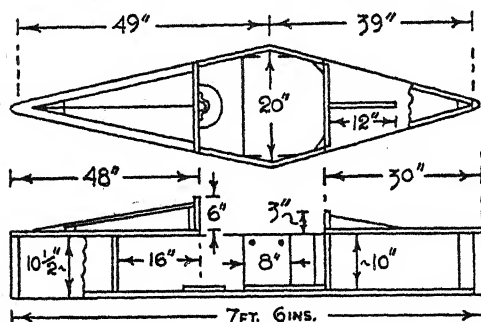


Fig. 1—Top view with sectional side view

temporarily with $1\frac{1}{2}$ in. screws, then trim the edges with a smoothing plane. The decks are removed, painted and re-screwed.

The keel lath measures 7 ft. 6 ins. by 3 ins. by $\frac{1}{2}$ in. Fix with paint and screws, and point the ends to suit the canoe shape. Batten of 2 in. wide stuff could be secured to the

bottom edges, temporarily, to save the flooring. A rather novel form of breakwater is suggested and looks better than a couple of sticks. First of all, cut out the half-diamond shape given at Fig. 3 in conjunction with the length of the coaming or shield.

A Novel Breakwater

The top edge of the shape is bevelled down towards the bow, the angle being found by testing with a straight lath of wood. This also applies to the front block shape. It will help if you pencil straight lines along the top edge of the deck to show an in. margin.

The blocks (see Fig. 3) are glued and nailed in place in alignment with the pencil lines. A piece of $\frac{1}{4}$ in. birch plywood is used as the covering, same

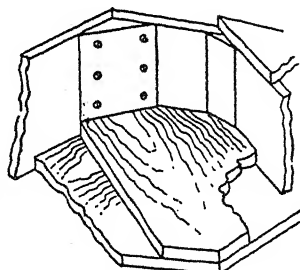


Fig. 2—The gunwale joint, seat, etc.

being bent in the centre. To obtain the true shape without trouble, fold and experiment with a sheet of cardboard or thick brown paper.

When cut to shape, use it as a template for marking out on the plywood. To bend the plywood, cut a small V-groove along the underside and score along the top side with a penknife. The edges resting on the deck are bevelled to suit, after which the interior side of the covering is thoroughly coated with paint (including the blocks, etc.) and secured with panel pins.

It is assumed, of course, that the back block shape has been affixed with glue and nails $\frac{1}{2}$ in. inwards from the edge of the deck as in the elevation. Plane and rasp the edges of the plywood flush with the back block and attach the shield with paint and screws. The seat back and its support is painted and nailed in place.

Enamelling the Canoe

Except for the 6 in. circular mast step and staple and tow ring at the bow, the work is complete and ready for its finish. Enamel paint is as good as anything else and a very attractive colour is grey; the breakwater hood would look nice if painted black or brown.

To make the canoe absolutely waterproof and damp-proof, it could be given a foundation of lead paint all over, then given two coats of enamel. Be sure each application is quite dry before adding another.

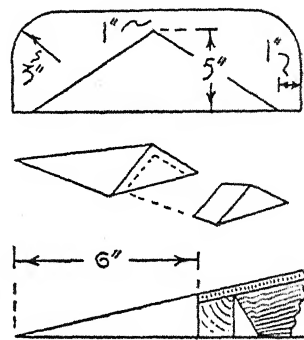


Fig. 3—Foredeck coaming with blocks and section

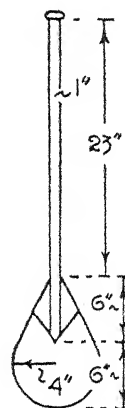


Fig. 4 The paddle

The paddle is made from a length of 1 in. or $1\frac{1}{2}$ in. square oak or ash. A $\frac{1}{2}$ in. slot is cut 6 ins. up the centre of one end for the plywood blade (see Fig. 4) which is glued and nailed in place. Side pieces of wood are affixed on both sides to the thickness of the shaft.

Round the shaft and spokeshave the edges of the blade segments to a neat, rounded sweep, the edges of the blade being rounded. Screw a button of wood to the shaft top, then paint the shaft black and the blade grey, or both the same colour. The length of the paddle should be made to suit the individual and two blades could be fitted if so desired. A simple paddle can be made from a garden rake pole and a blade of plywood without the side segments.

GADGETS TO MAKE AT CAMP

CAMP is the handicraftsman's "Mecca," the place where he can demonstrate his skill in the making of gadgets, etc. His ingenuity is particularly brought into play, as the only materials he has to hand are those he finds around him, such as rough tree-wood, etc., plus light cord or string for lashings—a plentiful supply of which should be found in every camp.

Many gadgets that can be made, however, are self-locking in construction and so do not need the addition of any binding.

As tools, the camp handyman will only have a serviceable knife, and perhaps a small axe, but in expert hands these are quite sufficient for a vast variety of work.

A Back Rest

As comfort therefore is one of our points, the first sketch (1) shows a back-rest which does really give rest. Squatting on the ground can become very tiring, and lying prone for long periods (as while reading), is not too good. The rest shown, however, is a cross between the two positions.

A number of horizontal pieces (a), are cut and are secured by a continuous lashing to the strips (b), which previously have been notched at (c).

Two supports (d) are then shaped at their ends to fit the notches and the whole rest is assembled as per the side view. A blanket or other covering may be thrown over the front for extra ease if desirable.

A Book Rest

Should you like reading lying on the grass (chin on hands sort of thing) then the little book rest (2) will be found very handy. This is merely four lengths of wood, each about 7 ins., lashed together as the sketch indicates.

Round the fire, many gadgets can be fitted up, but we only show three here.

"Billies" etc., can be hung over the flames on a nicely adjustable gadget if you will find a length of tree wood from which several small boughs branch.

Cut away these small boughs, a little from their point of joining, and you will have a piece as shown in Fig. 3. A couple of forked supports are driven in the ground on either side of the fire and a cross-length (e) is laid in the forks.

Cooking Apparatus

The first piece of wood then can be hooked over the horizontal length, and if there were several smaller branches joining it, you will be able to adjust the height of the cooking vessel by suspending the piece by a higher or lower "peg."

The second fire idea is shown in sketch 7—a very elementary idea, but quite a sound method of holding a *light* billy-can over a fire.

A long piece of wood forked at the end is supported by a shorter forked length in the middle. The end of the longer piece is held down at the end by stones or turf (both of which are permissible in camp constructions).

By moving the upright support a little one way or the other, the height of the billy-can may be adjusted.

A Long Stirrer

The third gadget is a "long distance" stirrer, and is made by splitting the end of a length of wood, and binding in tightly a spoon (8)—a simple gadget, but one that is extremely helpful for working at a fire in the open.

Wire, strictly speaking, should not form part of the camp handyman's material, but if you have a little soft wire with you, quite a big number of gadgets can be made.

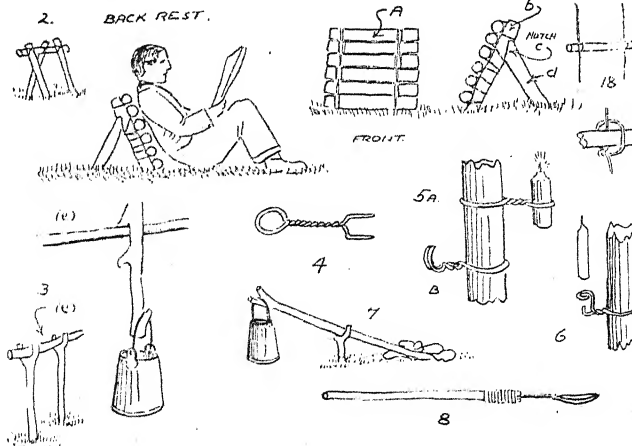
Pole Candle Holder

Fig. 4 shows a simple fork and (5a) indicates a very useful item—a candle holder for the pole. Sketch (6) shows a more elaborate and better form of the holder.

Here the candle slips through the top loop and its lower end is "spiked" on the upturned end of the wire. In both cases the wire is first looped round the pole, the twisting then being quite easy if you work with two fairly long ends.

Fig. 5 (b) is made the same way and is a simple holder for light objects. Do not fit one of these directly below the candle holder however, but on the other side of the pole, as this prevents risk from falling grease.

A shoe rack (9) outside the tent door



is a handy addition to camp life, particularly if you have the good habit of taking off muddy or wet boots before entering the tent.

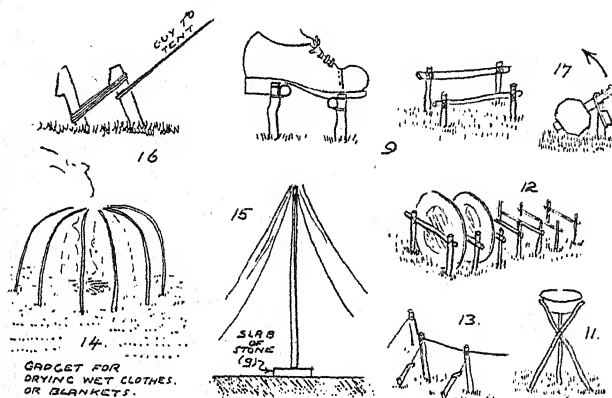
Two bars are made for the rack, one slightly higher than the other, both bars being horizontal lengths of wood lashed to suitable uprights which are driven into the ground.

A Plate Rack

Another useful rack is indicated in Fig. 12—this time for plates. It is simply a number of horizontal bars (each held by two supports) placed about three or four inches apart.

Fig. 11 shows an effective wash-bowl holder. Three lengths of wood are lashed together at their middles. They are then gently pulled apart until the bowl just fits in the top. This little arrangement makes a surprisingly rigid stand.

Next to the stand we see a method of rigging-up a quick fence for the keeping away of cows and other animals, which can be a nuisance and incidentally do a lot of damage to a tent in a very short time. The fence is made by running a rope round a number of stakes (about 4ft. long).



Each stake is then supplied with a guy-line complete with runner and peg. The lines are attached to the top of the stakes, the pegs are driven in and as the top rope forms a circle, when all the guys are tightened up, the fence is quite firm.

A Clothes Drying Rack

The gadget in the left-hand bottom corner of the illustration is not a gypsy's hut, but an idea for drying wet clothes or blankets. A number of

pliable sticks are pushed into the ground round the fire.

Their ends are then bent down, and are tied together, thus forming a "cage" which is capable of holding quite a heavy weight. A good ash fire is made and the damp articles are draped over the sticks, thus trapping the heat which effects the necessary drying.

Attention to Guys

As well as being able to make gadgets, the handyman should be able to turn his skill to what we might call the 'mechanics' of the camp.

Guy lines tighten rapidly in rain and can wreck a tent if not slackened. Figure (15) shows how an even all-round slackening can be effected with ease. The tent is originally erected with the pole standing on a slab of stone (g).

Upon a sudden rain-storm coming up this slab is removed and the pole drops a little, which has the result of reducing its effective height—hence an even slackening of the guys all round. Simple, isn't it?

Also about those windy days when pegs keep drawing. Well (16) shows how this can be stopped by putting in a "double purchase" peg-system.

A second peg is driven in and a lashing is carried from the top of the normal tent peg to the base of the auxiliary. This system will hold a tent even in the roughest weather.

Stubborn Pegs

While pegs draw very easily when you don't want them, they often simply *won't* come out when you wish them to. Again the handyman should be ready with a scheme, and a way in which stubborn pegs can be drawn is indicated in Fig. 17, using a mallet (with a loop of rope) as lever.

The rope is simply slipped over the head of the peg and then wound round the handle of the mallet when it is easily held by the hand—no tying being necessary.

The only part of the illustration that we have not described now, is No. (18), in the top right-hand corner. This shows how to make a rope ladder.

The rungs are short stout pieces of wood about 8 ins. long and the rope, which must be strong, is looped on to each, with the knot indicated.

Cargo Ship—(Continued from opposite page)

to the two decks and chamfering them to fit against the bow post K. Bring round the plywood to meet the pieces B and C at the stern and carefully trim off. Glasspaper up after the glue has set and the tiny fret pins driven in.

The funnel is from 3 in. dowelling 3 ins. long and that end which fits on to piece F will be cut sloping to give a proper rake.

The two masts are 4½ ins. long and shaped up from 3/16 in. rod. The two booms will also be of 3/16 in. rod tapered off and either glued to

the masts with small pins put through, or swivelled to the masts by screwing in small brass screw eyes.

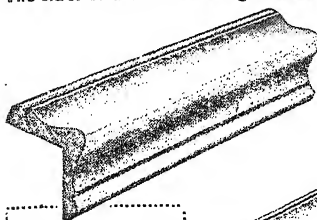
Paint the sides of the ship black with red for the waterline and buff for the decks. The lower part of the funnel should be buff, with a white band and the top black.

Paint the portholes in white with blue middles, and finally the masts and boom buff; same as the decks. Small brass screw eyes serve admirably for fastening off the rigging ropes.

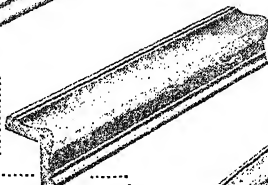
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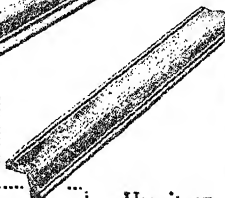


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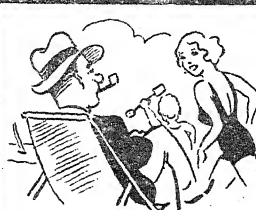
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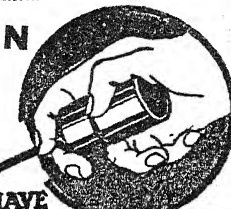
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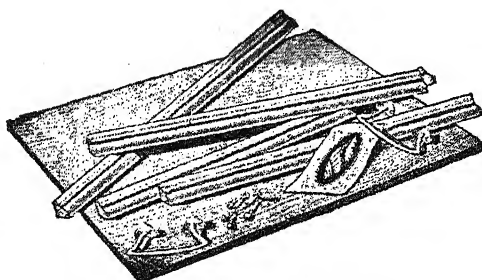
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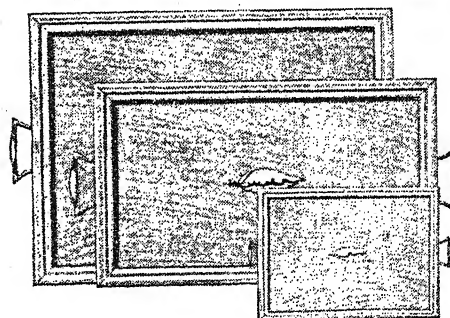
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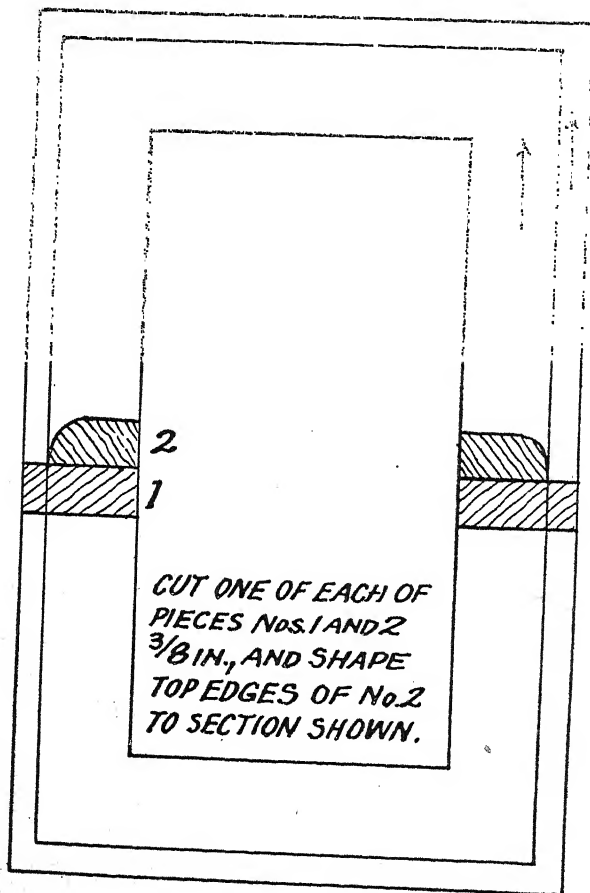
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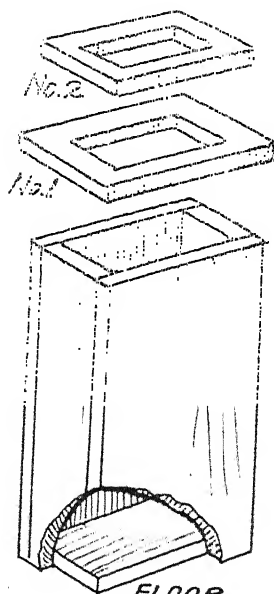
with inlaid panels in wood

For instructions see page 193



CUT ONE OF EACH OF
PIECES NOS. 1 AND 2
 $\frac{3}{8}$ IN., AND SHAPE
TOP EDGES OF No. 2
TO SECTION SHOWN.

SIDE
CUT TWO $\frac{1}{4}$ IN..



FLOOR
SHOWING HOW
PARTS ARE
ASSEMBLED.

SIDE
CUT TWO $\frac{1}{4}$ IN..

FOOT, CUT TWO $\frac{3}{8}$ IN.

2" →

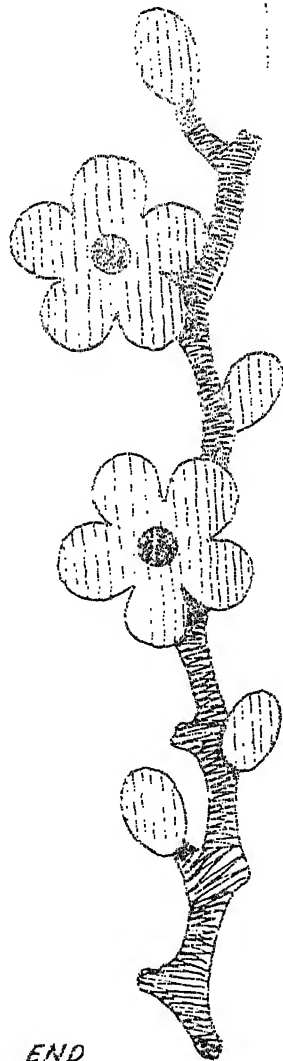
$\frac{1}{2}$ "

FLOOR
CUT ONE
 $\frac{1}{4}$ IN.

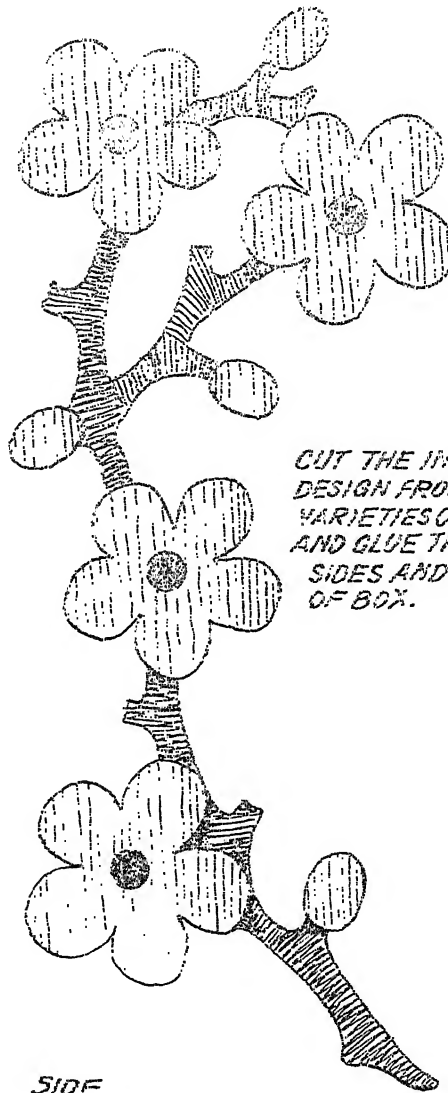
A

FOOT
CUT TWO
 $\frac{3}{8}$ IN.

A



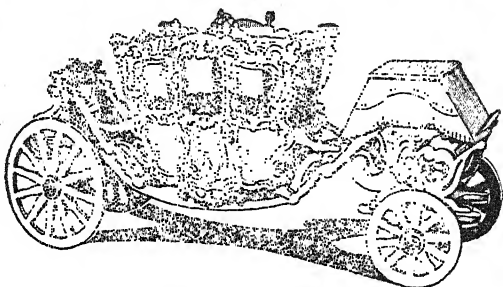
END
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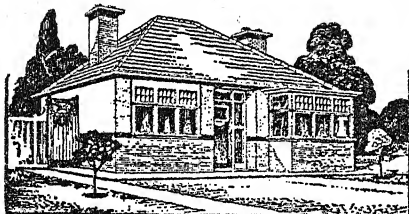
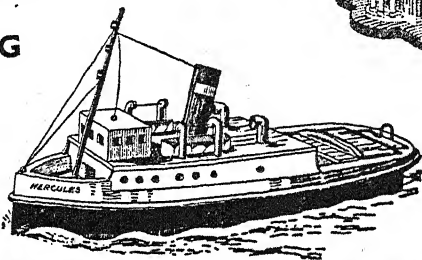


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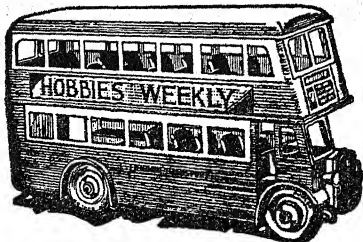
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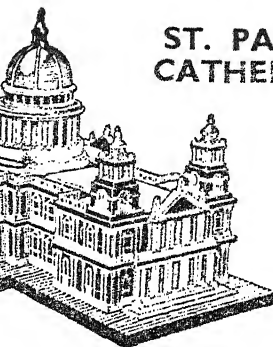


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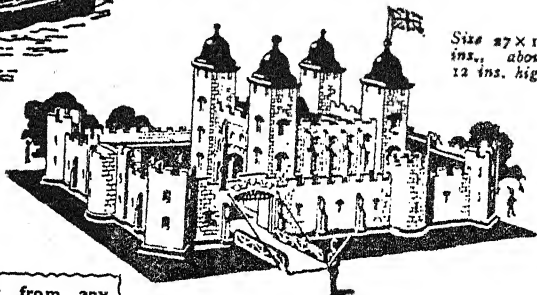
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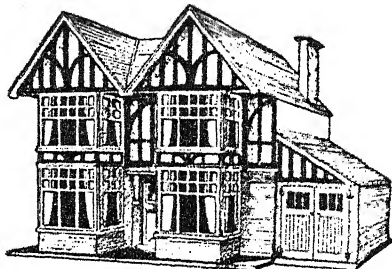
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FRETWORK

A further article of hints and tips to all using fretwork tools

WE are glad to hear that readers are finding these notes so helpful, and are glad to be able to incorporate into them some of the queries raised in letters from various workers.

That is, of course, what they are for, and if any other readers have queries or troubles which they cannot overcome, we are only too glad to incorporate in these Notes as far as possible, answers to their questions.

They will naturally be answered by letters also in order to save time, but as the difficulties may appear to some readers, so it may be helpful to give a solution to them in these Notes.

The Finishing Touches

One of the most lax operations with workers is that of cleaning and finishing off. They seem to put all their energy and enthusiasm into the actual cutting and fitting, and to leave nothing

over for the little incidental operations of finishing off satisfactorily.

In this connection one cannot pay too much attention to the use of glasspaper, and to have at hand and in use

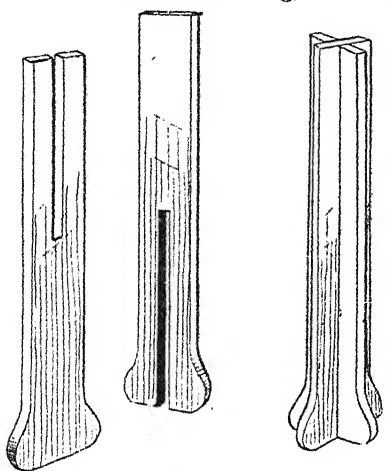


Fig. 1—The long open halving joint

the various grades which are offered. Too often the worker merely has a sheet of glasspaper of no particular grade at all, and this comes in for all purposes. There are objections to this which are definitely derogatory to good work, and workmanship.

Suppose, for instance, you have a piece of fine grade glasspaper and you use that for all occasions. Obviously, when you want to clean the remains of the design pattern off the wood, this will take a lot more energy than the final operations of just cleaning up.

In consequence, your fine grade of paper will become absolutely worn out and even then probably before you have managed to rub off the whole of the remains of the pattern from the wood.

All of which is unnecessary work involving equally unnecessary waste of time.

You see, if you have a coarser grade of paper, the work of cleaning off the pattern remains will be reduced by half because that particular grade is

Using Glasspaper Cutting Halving Joints Testing Hints

specially made to undertake the rougher work of the first operation. On the other hand this coarse glasspaper must not be used for finishing.

If you do, it will only scratch the surface and leave unsightly marks. Moreover, if there are delicate frets they will be caught in the edges of the paper and torn up and broken in a disastrous manner.

The Grades to Use

The best grade to use for the first operation of cleaning is No. 2 or as it may be shown, M 2 or F 2. Do not be too rough in handling this or you will scratch the surface so unmercifully it will be difficult to get it flat again. This particularly applies in soft wood.

When the necessary paper remains have been cleaned off you can finish with the medium or fine grade, the usual number for which is O or OO. In the glasspaper strip refills supplied by Hobbies, you have the whole range of fine to coarse, and these are quite useful for all occasions.

Never use glasspaper in a whole sheet, as it is awkward and unsatisfactory. Moreover, cut the piece you require with an old knife or pair of scissors. Do not tear it or you will strip the face off and leave an odd edge.

On the other hand, do not use a good knife because the glasspaper will take the edge off it.

Use it Right Out

Another usual trouble with glasspaper is that it is thrown away before it is really used up. If you notice in a carpenter's shop or on a cabinet maker's bench, you will find little odd pieces of glasspaper which appear to have no surface left on them.

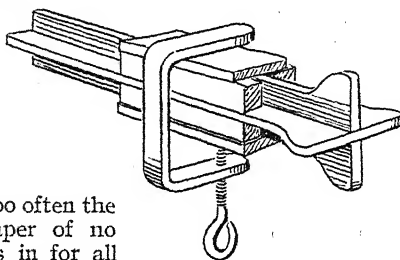


Fig. 2—Getting the clamp evenly over the joint

They, however, come into service frequently for finishing off, and particularly when small odd corners or angles are to be dealt with, and where only a tiny piece of glasspaper is necessary.

The Proper Finish

When completely cleaned and rubbed over finally, the surface of the wood should be perfectly flat and have almost a semi-gloss upon it. Give it a final wipe over with a duster or clean rag to take away the powder of the wood.

There should be no need, by the way, to mention the fact that glasspaper in the usual way should

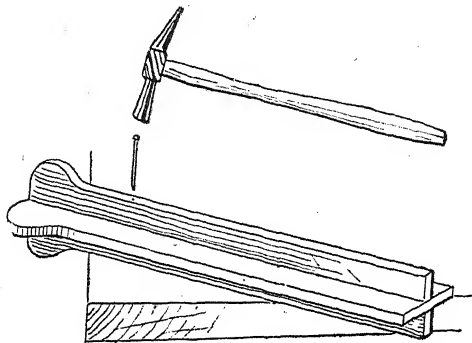


Fig. 3—Where to drive the nail to prevent the parts gaping always be used on a rubber. This can be a piece of cork or block of wood, or better still, the special comfortable glasspaper block supplied by Hobbies.

All these appliances will keep the glasspaper quite flat, and so prevent any tendency to tear up the frets or projecting pieces. Keep the glasspaper tightly wrapped round the rubber and use it perfectly flat on the surface of the wood.

No Gaping Joint

Another note which has arisen is on the question of fitting a long open halving joint. Complaint is made that these always gape open or break off in the operation of cutting. These, however, are two points which can be easily overcome if a little thought is given to the work.

Such a joint is illustrated here at Fig. 1 and it can be seen how the two parts have to be fitted together by sliding them comfortably into each other. The first care must be taken in the actual cutting for, of course, it is essential a perfectly straight line is obtained along the whole side if the parts are to fit.

How to Fit

Naturally, the slightest little bit sticking out will throw the joint out of true, and cause the gaping which is the trouble. If the saw has run off at all, the matter must be rectified by the use of a long file.

Lay it along the whole edge of the wood and rub carefully until the projections have been got flat. Remember, too, to put the wood in a vice to prevent it snapping. Before cutting this long slot, too, make sure the width of it is just enough to take the other piece which has to slide into it.

Keep the saw on the cutting line on both sides. Do not make it wider one side than the other, or you will throw the whole thing out of true when the rest of the parts are joined together. Whatever you do, do not make the joint too small, because the two parts should fit by hand pressure only.

Do Not Force

If you have got them too tight you will find the narrow leg of wood gradually curling outwards as you put the two parts together.

Moreover, if you have to force them too much, one is sure to snap and the whole thing be spoiled. When the parts are joined, the halving joint should be almost invisible, but strength is given it by the addition of glue on the inner edges.

Rub this carefully along the wood where the joint is to be made, and put the part in a cramp carefully packed up until the glue is set. Get the cramp evenly over the joint (as shown in Fig. 2) or there will be a tendency to wring sideways. It may also be worth while adding a thin nail or pin through the edge of the work where there is any tendency to gape.

Hole before Nailing

Make a hole before you drive in the nail, and see it passes right through the two parts concerned. A suitable position for such a nail is shown at Fig. 3, but this is merely an addition to the gluing and not sufficient in itself.

This, by the way, is a further objection to the use of plywood in pieces of fretwork such as this, because you will find it almost impossible to drive a nail satisfactorily into the edge of fretwood unless a very careful hole is made for it.

Then if the hole is made large enough to take the pin or nail, it will not grip the wood as it should.

Joints such as this must be tested before they are finally fitted. Moreover, these halving joints are usually found in pairs—for example, the complete framework of a box is made up by the four sides being halved together at each corner.

Other Tests to Make

The testing mentioned should include measurement with dividers or a ruler to ensure that the distance between the slots is the same in every case. You can see that if two are a little further apart than the others, not only will they throw the cutting out, but it will also strain the work and probably break the parts in endeavouring to get the pieces together satisfactorily.

Readers should write for the free book telling all about the Hobbies League

screwed in position dry, then taken off, glued and re-screwed in place.

When the glue has set, the top edges of the plinth must be planed flat and then the plinth cleaned up and screwed in place.

As mentioned previously, a pair of Hobbies doors (No. 601) are used for this cabinet. These

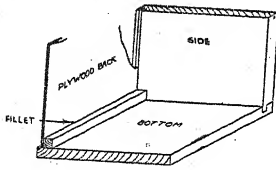


Fig. 3—Fixing plywood to fillets

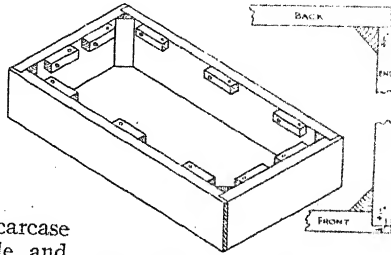


Fig. 4—Showing construction of plinth

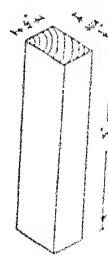


Fig. 5—A handle

the bottom of the left-hand door so that it will enter the bottom shelf, and then a 3/4 in. ball catch (No. 5482) let into the right-hand door.

The work can now be stained, if this is necessary, to make it match the other furniture in the room, and then polished with Hobbies Waxine as a filler, and finished off with Hobbies Lightning Polish.

In the illustrations the door handles are shown black and, unless a very dark finish is required, it will be found that these supply a pleasing contrast to the rest of the work.

should next be fitted to the carcass and then the two handles made and fitted. The details of the handles are given in Fig. 5. Like the angle-blocks, they should be planed up in one piece and cut off to length afterwards.

They are let into the stiles of the doors to a depth of 1/2 in., and this sinking can be cut out with a chisel and a router, the handle being glued in place and screwed from the inside of the door.

The doors are hinged with 1 1/2 in. brass butts, and to prevent the hinges being strained, a plywood door-stop should be fixed to the underside of the upper shelf.

To keep the doors from swinging open, a small bolt—either (No. 2 or No. 6)—should be screwed at

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		(Finished Sizes)	
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1 Top ..	1ft. 5 ins. by 9 ins. by 1 in.		
1 Bottom ..	1ft. 5 ins. by 9 ins. by 1 in.		
2 Wide Shelves ..	1ft. 4 ins. by 8 ins. by 1 in.		
1 Narrow Shelf ..	1ft. 4 ins. by 9 ins. by 1 in.		
1 Plywood Back ..	2ft. 4 ins. by 1ft. 4 ins. by 1 in.		
2 Doors (Hobbies No. 601) ..		1ft. 0 ins. by 8 ins. by 1 in.	
Plinth—1 Front ..		1ft. 4 ins. by 3 ins. by 1 in.	
1 Back ..	1ft. 4 ins. by 3 ins. by 1 in.		
2 Ends ..	8 ins. by 3 ins. by 1 in.		



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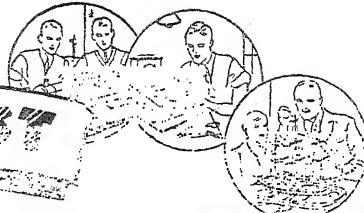
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In the Open Section a 1st Prize of a Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed Amateur Photographic Competition,

Hobbies Weekly, Dereham, Norfolk, and must arrive not later than May 31st. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.



REPLY OF INTEREST



Film Screen

COULD you inform me as to the right material to use for the making of a film projector screen?—(J. McP.)

PERHAPS the most popular screen surface at the moment for sub-standard projectors is that commonly called "silver." The screen itself may be either fine canvas, or for sizes up to 3ft. 6ins. by 2ft. 6ins. plywood (properly stiffened) is good. The "silvering" is effected by first painting the surface with "Coverine," a flat white medium obtainable from any paint shop. A 1-lb tin will cover any sub-standard area very well. When dry, the surface is quickly damped with methylated spirits, then coated with aluminium paint, using a wide long-haired brush for the purpose. Care should be taken to cover the whole surface evenly at one application as it is not easy to patch missed parts later. Whether wood or canvas, the screen should be given a dead black border which imparts to the picture an illusion of increased size. The canvas screen can safely be rolled for carrying, but folding must be avoided; the wooden screen is, of course, more for home use.

Keeping Newts

I HAVE a small aquarium measuring 12ins. by 7ins. by 7ins., and I would like to keep newts in it. Could you advise me about preparations for them?—(K.B.)

YOUR aquarium is rather small for newts which like frogs and toads spend only the April-May breeding season in water, and require some damp mud and grass or other surround to the water for most of the summer, autumn and winter. If you can fit up a sort of island either of rock or cork, etc. in your aquarium, so the newts can have plenty of room out of water as well as in the water, it might be more habitable. Or better still, search ponds and ditches for newt eggs or tadpoles, the former are laid in strings of 4 to 6 at a time attached to water plants, and the latter are spotted with yellow. They like some pondweed in the water (this is easily

obtained by dragging a meat hook on the end of a string or cord across a pond) and some of the growing weeds attached to the mud or sand bottom by stones. If kept in a warm place they will be active all winter, but in the cold the newts will hibernate in holes or cracks between stones. In April, May and June especially, they need frequent change of water, if this is not well stocked with pondweed, for it soon gets stale. Newt tadpoles need a lot of small food and are thus difficult to keep as pets, but a favourite way of meeting their demands (they will eat one another if not fed enough), is to keep them in some old bath or bowl, into which water collected from a pond, along with mud, underwater weeds, etc., can be tipped, thereby introducing the little pond things the tadpoles like. Later on, the larger tadpoles will take small worms. In summer reduce the quantity of water in the aquarium and increase the amount of rock, etc. where the newts can rest, for after leaving water, the young newts become very inactive. Small worms are the easiest food to give them; they also take small slugs, but whatever they take, it must be moving before they will seize it. They might also seize spiders dangled by one leg from a pair of forceps, etc. before them.

Waterproofing a Boat

I WISH to make a punt and have drawn what I consider suitable plans, but I am very doubtful as to whether it will be watertight. I intend to putty and tar the joints and seams. Do you think this will be sufficient and could you give me any hints on using the last named?—(C.F.N.)

IT is not good practice to putty the seams of a boat, as under the expansion and contraction of the wood the putty will crack. Caulking can be adopted if desired. This involves ramming oakum or hemp yarn tightly in the seams, with a caulking chisel, but a better job can be made by covering each joint with a wood slat. A thick paint for luting the joints should be made first. This is whitelead, ground in oil and mixed with

boiled linseed oil and driers. The edges of the planks are thickly coated with this as they are laid side by side. The slats are then coated, also the flooring where the slats will come. Afterwards the slats are pressed down over the joints and nailed with copper tacks. In the angle between the sides of boat and bottom, an angle fillet is nailed. This also is luted with the paint before fixing. The bottom can be copper nailed to the sides or brass screwed. Afterwards the sides are painted, the bottom tarred and the interior either painted or varnished with boat varnish.

What is Electricity?

I HAVE been reading in *Hobbies* about electricity. Could you tell me what is electricity and why it tingles when you touch a live wire?—(R.S.)

ELECTRICITY is electrons in motion. You should see the article on "Some low voltage experiments" for a full description. The tingling sensation is due to the stimulation of nerve endings in the skin. You will find that where the skin is thin and tender, the sensation is strongest. The amount of tingling depends on the current flowing, and is increased if the skin is wet.

Fixing Pastel Drawing

HAVING just completed a pastel drawing, I am desirous of making it a fixed picture. I find that with the majority of my drawings, in time the whole thing becomes smudgy and dull owing to the particles of pastel being occasionally or accidentally rubbed. Will you please advise me as to a fixative of some sort?—(W.L.G.)

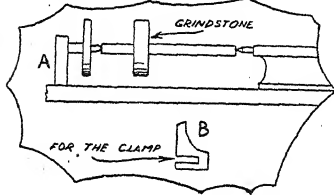
PASTEL drawings are fixed with a fixative which is lightly sprayed over the entire surface. A very fine spray is necessary as the picture is inclined to lose its definition if the colours are soaked with fixative, and the colours will also tend to lose their natural brightness. Makers of artists' colours and materials supply a 2oz. bottle of fixative, packed in a box complete with a spray diffuser and directions for use, for 1/6.



For original Tips published the sender will receive a Hobbies Propelling Pencil. We cannot acknowledge all those received or guarantee to print them. Send to The Editor, Hobbies Weekly, Broomham, Norfolk. Keep them short and add rough pencil sketches if possible.

Chisel Grinding

IF you have a Hobbies or any other lathe, a good method of grinding is to get a stone about 3ins. or 4ins. diam. by $\frac{1}{2}$ in. or $\frac{3}{4}$ in. thick and fasten to a piece of dowel the diameter of the hole



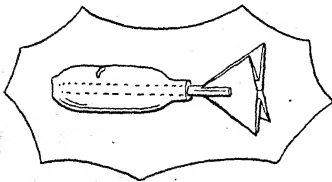
through the stone, fix the dowel as you would if you were turning it, and treadle in the ordinary way. A suitable rest would be a piece of wood shaped as B clamped to the bed. The above method can also be used for buffing up light pieces of metal.—(Broom, Rotherham).

Securing Glass

TO make a glass secure that is too small for an electric lamp, place a rubber ring inside the lamp rim and around the edge of the glass, you will find it fits quite tight.—(R. W. Barley, Thornham).

Safety Darts

THESE are useful for children, and for certain games, as they can be safely thrown at each other, without danger. Take an empty gelatine container, such as are sold at 1d., for filling petrol lighters. Slice a small piece off the nozzle, insert a match stalk, or piece of thin dowel, which has



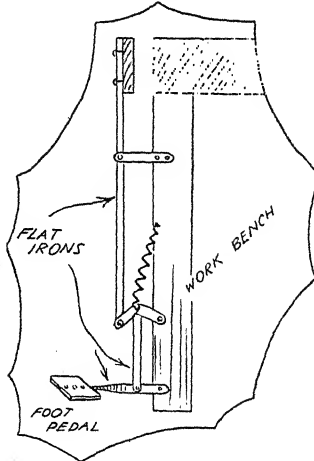
been split across both ways, at one end. Into this end, place a "feather," made of thin paper, folded as shown, and your dart is made. For a target, make a board with one or more, numbered holes in it.—(F. Coates, Cross-gates).

Tile Cement

HERE is a tip I have found very useful when in need of some cement. Take two parts of flour and one part common salt and mix to a smooth paste with a drop of cold water. Clean the surfaces to be used and apply a coating of the paste. Allow to dry for a few hours when it will set like cement. It is heat resisting and therefore especially useful for resetting hearth tile, etc.—(P. R. Williamson, Sheffield).

Foot Operated Vice

THE figure shows the method of constructing a foot-operated vice which I find very useful when finishing off fretwork designs.



It is foot-operated and the hands need not be taken off the work. "F" is a spring which keeps the vice open. (J. H. Hermans, Carmangay, Canada).

Purple Ink

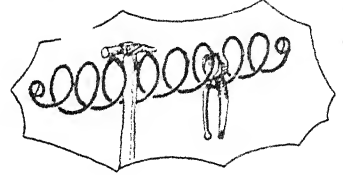
CRUSH some copying ink pencil to powder, place in a small bottle and add boiling water. The result is purple ink.—(D. Wheatcroft, Stockport).

Ink Eraser

HERE is a tip which has been very useful to me. When there are ink blots on paper, rub some Milton on and the blots will disappear.—(E. Jankelowitz, Johannesburg).

Tool or Toothbrush Rack

HERE is a good suggestion for the "Hints and Tips" page. Take a small round spring



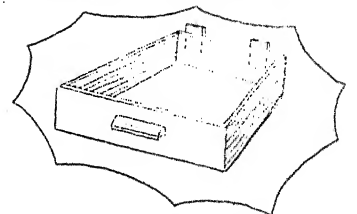
and nail one end to the wall. Stretch the other end out and nail that end to the wall. One may then use it as a tool rack or a toothbrush rack. (G. Best, Bradford).

Model Galleon Guns

A USEFUL hint if you want some guns for a model galleon, is the plug-in portion of the cells of an old high-tension battery. Remove carbon rod carefully, by tapping the sides of the cap very lightly with a hammer. On the side of your model, make some square holes about $\frac{1}{4}$ in. square and $\frac{1}{4}$ in. deep. At the bottom of each bore a hole big enough to let the cap in and you will find this quite an attractive and realistic model.—(E. Atkins, Willesden, N.W.10).

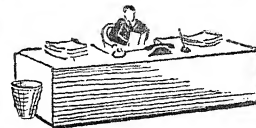
Drawer Pull Tip

OBTAIN two pieces of plywood 2 $\frac{1}{2}$ ins. long and $\frac{1}{4}$ in. wide. Screw them on to the back of the drawer just sufficiently to catch on the front end of the chest when pulled forward. Fix each piece with one screw only



in order to get the drawer back into the chest. You can thus turn the pieces of wood down, and turn them up again when the drawer is in place.—(W. H. Prime, Worcester Park).

The EDITOR'S NOTES



ON page 195 are details for the making of a novel but thoroughly practical Canoe. This is not only of unusual shape but it is also completed throughout of wood. It is thus a little heavier than the ordinary canoe, but I must say that this is often an advantage. Because, after all, a light canvas canoe *does* take some handling, especially when we try to get into it and push off for the first time. So I know this new type of steadier and sturdier boat will appeal to many who have previously been a little afraid of the ordinary canoe.

I SEE it has been decided to hold the Gosport (Hampshire) Hobbies Exhibition annually because that held recently was such a success. The point is of interest to all readers who like to show their work in an endeavour to win prizes or awards of merit. Because when the time comes, they should enter their models and in order not to miss the event, they can write now asking the Secretary to send them the Entry Form for the next exhibition when it comes along. The whole thing is run by the Juvenile Organisations Committee of which Mr. C. A. Beck of Gosport is the Hon. Sec.

A LITTLE time ago I mentioned a church built in matchsticks. Now I hear from an ardent reader who has completed our Lord's Prayer Design (No. 5 Special) of the same materials. This worker is P. R. Stonestreet of Norman Road, Tunbridge Wells, who sends me an interesting cutting on the subject from a local paper. In the construction of this unique piece of work, he tells me, he used no less than 25,422 matches and nearly 7lbs. of glue. The letters are built up as match overlays, cut with a fine fret-saw. Just imagine the patience required to man-handle, cut and glue every solitary match up to that astounding number. Just think, if laid end to end the matches would probably stretch across England. I don't know, mind you, but perhaps some of you statisticians may like to work it out and tell me. Or maybe George would like to do it! Anyhow, congratulations to our friend for his happy completion of such a novelty.

I AM afraid there is not room for the usual fortnightly Crossword this week, but I can promise you another will be coming in the next issue. These little puzzles are proving popular and I am keeping them simple so that everyone can have a snap at them to pass a little time away.

AND yet another wonderful collector, who goes in for records. I don't mean for high jumps or biggest billiard break or that sort of thing, but real gramophone records. He has, I am told, between 2,000 and 3,000 of them as the result of 22 years of collecting and includes, as you may imagine some unique and interesting discs. The gentleman concerned (who, of course, can break a record whenever he likes!) is Mr. A. H. Bassanno of Wolverhampton, and one of these days I am going to get George to work out how long it would take to play them—one after the other. And if I have much more trouble with George, I should make him sit and listen to them!

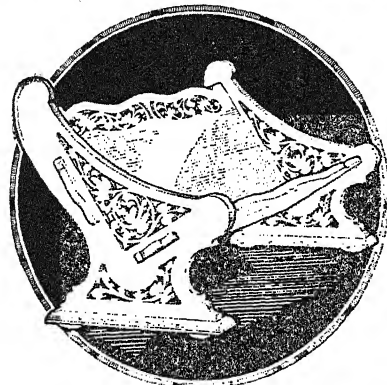
IT is a constant delight to me to have the kind letters from readers about their interest in and help from "H.W." There can be few periodicals where an Editor has so many friendly notes from people all over the world. I am always happy to do what I can to help and it is awfully nice to know our book and my letters are so much appreciated. Listen to this one from Walter Ewbank of Grange Town, near Middlesbrough.—

"I have been a fretworker 27 years and am keen on your valuable weekly paper. I have taken it since 1910 and hope to take it for a few more years to come yet, with health and luck. I now have one of your A1 Machines and they are honestly worth twice as much as they are priced at."

NO doubt you have already seen the last announcement about this month's Photographic Competition. Next week, of course, will be too late to send it in for May, but another subject will be given for you to put in for June. These photographic articles are a regular feature of Hobbies.

The Editor

NEXT WEEK'S LARGE FREE DESIGN OF A BOOK TROUGH



MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except freework, or those shown in Hobbies Handbook, contact can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

100 STAMPS, all different, free to approval applicants sending 2d. postage.—Errington Macquiere (O), 51 Atkins Road, London, S.W. 12.

RATTLESNAKE SKINS, perfect condition, 6d. each, 7½d. post free.—Leather Shop, Eden Street, Kingston-on-Thames.

WHY NOT TREAT YOURSELF to a fretmachine? It will double your output in half the time. Prices from 30/- cash or easy payments.—Hobbies Ltd., Dereham.

BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

LATHE AND FRETSAW 95/- carriage forward. Treadle-driven and just the thing for the home handyman. Write for details.—Hobbies Ltd., Dereham.

WANTED original poems, songs, for immediate consideration. Send poems to Columbian Music Publishers, Ltd., Dept. 280, Toronto, Canada.

LONELY? Then write Secretary; U.C.C. 16 B.B., Cambridge Street, London, S.W.1. Genuine Estab. 1905.

THE WORLD'S MOST POPULAR FRETWORK SET—Hobbies A1, price 10/6; post 9d. Other sets from 1/6 to 21/-. Send for list.—Hobbies Ltd., Dereham.

READ the "Stamp Collectors Fortnightly." Editor Fred J. Melville, for lively articles and latest news, 5/- annually or 2d. fortnightly from your newsagent. Specimen from "S.C.F." 24 Bedford Row, W.C.1.

50 STAMPS FREE, Approvals 2d. stamp.—Paul, 43 Bramley Road, London, W.10.

POLISH OUTFIT 2/3; post 6d. Comprises three kinds of stain crystals, woodfiller, cotton-wool rubber, bottle of Hobbies "Lightning" polish, glasspaper and instructions.—Hobbies Ltd., Dereham.

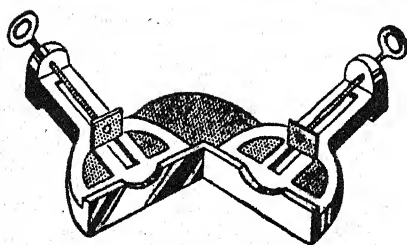
MOVIES AT HOME. How to make your own Cinema Projector. Particulars free.—Moviescope (H), Pear Tree Green, Dodinghurst, Essex.

FRAME YOUR OWN PICTURES! We supply mitre block, cramps, mouldings, etc. Easy, fascinating work. Profitable, too!—Hobbies Ltd., Dereham.

FIRST II Volumes "Hobbies," bound, 11/-. Free on rail.—Forbes, Clutton, Chester.

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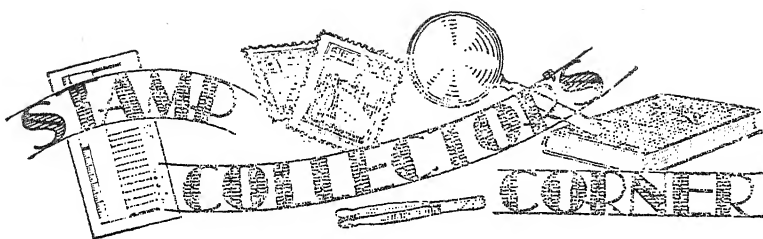
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A PHILATELIC TOUR OF BELGIUM

SURELY one of the joys of a holiday is the thinking out of the place to go and see, while one of the best of holidays that is all the rage now is touring. So why not take the stamp album and select from that a region to visit?

One of the countries nearest to Great Britain gives visitors of all types plenty to enjoy. That country is Belgium. To start



A Start from Ostend

with it is not an expensive trip, yet it provides great contrast from the Home country.

Let us, then, turn to the pages devoted to Belgium and see something of what we should want to see if we could take that trip.

Almost certainly we should set out from Dover, and travel the 72 miles to Ostend. Our first illustration shows us that place; it is on the 50 centimes stamp of the 1930 Air issue.

On arrival at Ostend we should, of course, first have to pass through the customs, and declare anything that we had which is not allowed to be imported into that country. They give you a large card with a list of the things that you must declare and ask you if you have any of those. Generally they allow you a little for personal use, but you have to declare it.

Although it is such a long time since the Great War, most people wish to visit part of the area over which there was fighting. So we will do likewise, and on the way we should pass through a small place called Furnes.

This is shown on the 5fr. of the 1915 issue and at one time was the Headquarters of the Belgian Army.

We should then pass on to Ypres—fondly called “Wipers” by the Tommies. On the 1929 Anti-tuberculosis issue 35c. value

we see the Menin Gate, a marvelous war memorial designed by Sir Reginald Blomfield, which is an arched entrance across one of the roads into the town.

On it there are inscribed the names of about 58,000 British soldiers who lost their lives, but who have no known grave. Perhaps here it might be mentioned that all soldiers who were killed (if the bodies could be identified), were buried and a small grave-stone was placed at the head of the grave. On this was carved the name, number, the regiment, the date of death and the regimental crest.

But there were occasions when it was impossible to identify the body, or when the soldier was missing, believed killed. Then the soldier had the same kind of stone except that there was a cross, and of course, no details.

It is the names of soldiers who were known to have died but who have no known grave whose names appear on the Menin Gate. So all soldiers who lost their lives away have their names somewhere.

A feature of the countryside will be these small cemeteries, so that any who visit Belgium will see and know what is meant.

The second illustration shows the Cloth Hall, which, before the

post, which got its name from the height—60 metres. That is only about 190 feet, and would hardly be called a hill in England.

Another illustration of this flat aspect is that of the belfry at Mons. Our next place of call served as a land mark for the construction of the canal for 15 miles from Conde. On the 10c. of the 1928 issue we can see the Cathedral of Mons.

In 1936 they had a Philatelic exhibition at Charleroi and a stamp was printed showing Charleroi Town Hall. This is an industrial town so we will pass through it as soon as possible, and come to a very different region—Dinant. The third illustration shows the 40c. of the 1915 issue; it is also on the 25c. of the 1929 issue.

This small town situated at the base of the Ardennes is a fine centre for tours, and has a somewhat bloodthirsty history! For instance, in 1466 the Duke of Burgundy besieged Dinant and caused some 800 of the inhabitants to be bound back to back and thrown into the Meuse.

Then in 1914 over 600 civilians were massacred because it was said that the civilian population had fired on the invaders!

On to Namur, a town built at



The Cloth Hall Ypres

At Dinant

Poor Louvain!

War, was one of the finest 13th century gothic buildings in Belgium. The 35c. of the 1915 issue shows a picture. Round Ypres they have left a few trenches as far as possible just as they were in 1918. Including the mine craters which have to be seen to be realised—holes in the ground large enough to bury a fair-sized house!

This part of Belgium is very flat, but just beyond Ypres is Hill 60. This was a very famous place during the War as an observation

the confluence of the Sambre and the Meuse. Just where these two rivers join is a fine fortress or, as it is called, a citadel. As you climb up the very steep road which leads to it you get beautiful views all round, and at the top there is an excellent stadium for all forms of sport.

Liege has two different views of interest to philatelists. There is the ‘perron’ on the 25c. of the 1919 issue and the Bishop’s Palace on the 3fr. 50c. of the 1929.

A picture of Louvain is shown

on the fourth illustration. The Library here was destroyed by fire by the Germans, but many nations have contributed to form a new one, and the clock and the carillon of 48 bells is the memorial to the American Engineers who were killed.

From Louvain we should go to Brussels, and what isn't there to see in this city?

If one is keen on Museums then visit the Belgian Congo Museum at Tervueren. It is some distance out of the city, but it is worth a day at any time. There is so much to say about this place that one can hardly do justice without a guide book. If you do go, get

a book and study it first so you do not come away and say 'Oh, I did not see that.'

The stamp album does not give one very much. On the 1fr. 75c. we see St. Gudule Cathedral. Not far away is Waterloo, and history books give us all we want to know about that so we won't stop here.

The next stopping place will be Ghent of which the 60c. of the 1928 and 1fr. of the 1930 issue will show you something. But see the Chateau des Comtes de Flandre, for it is one of the real story book castles. It has a fine moat, and vaulted cellars; originally stables which were used during the Spanish Inquisition as

torture chambers.

Bruges was at one time a famous port. Now, however, it is some distance from the sea, and the canal is not fit for large boats. It is not advisable to go here during the summer as the canals are used somewhat as dumping grounds for refuse, and the smell and the flies are troublesome.

Anyone who is keen on paintings should visit this very old town for all the churches are filled with valuable paintings. In particular is the Saint Sauveur Cathedral, but the Belfry is perhaps the most noted thing about the place. It is shown on the 5fr. of the 1929 Antituberculosis set.

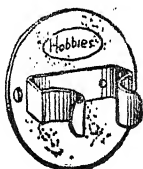
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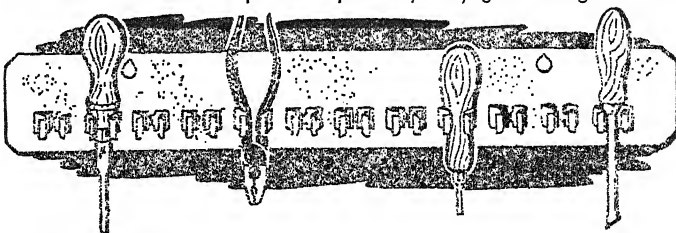
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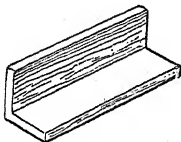


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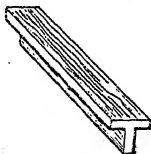
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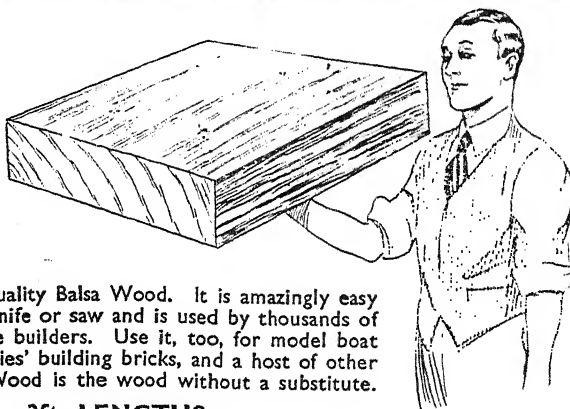


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2in. x ½in. ...	3½d.	3/-	¾in. x ¾in. ...	3d.	2/6
3in. x ½in. ...	4½d.	4/3	6in. x ¾in. ...	1/9	19/-
6in. x ½in. ...	9d.	8/-	½in. x ¾in. ...	3½d.	3/-
½in. x ¾in. ...	1½d.	1/3	1½in. x ½in. ...	7d.	6/-
¾in. x ¾in. ...	2d.	1/8	6in. x ¾in. ...	2/-	22/-
6in. x ¾in. ...	1/-	10/6	¾in. x ¾in. ...	4½d.	4/-
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GLASGOW — 326 ARGYLE STREET.
MANCHESTER — 10 PICCADILLY.
BIRMINGHAM — 9a HIGH STREET.
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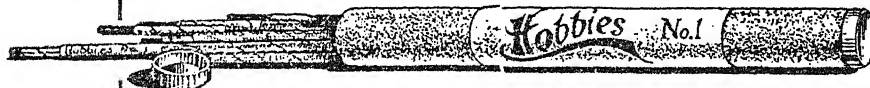
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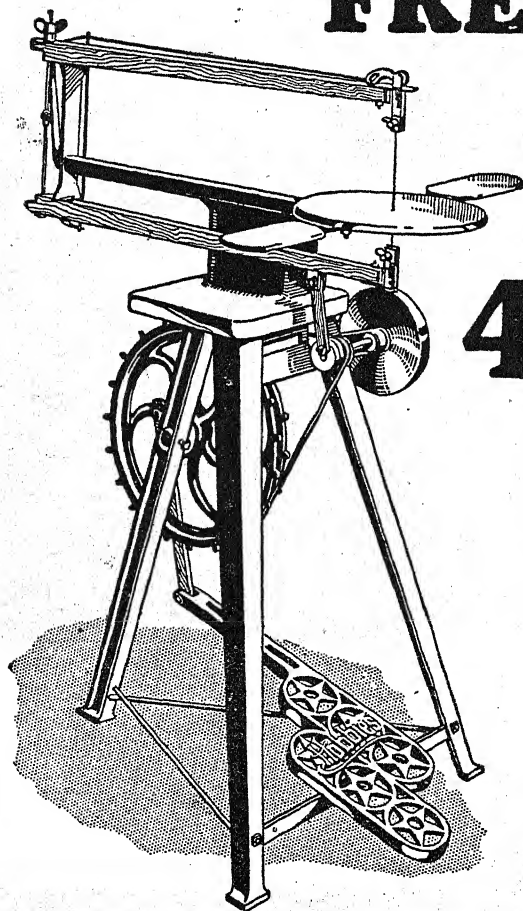
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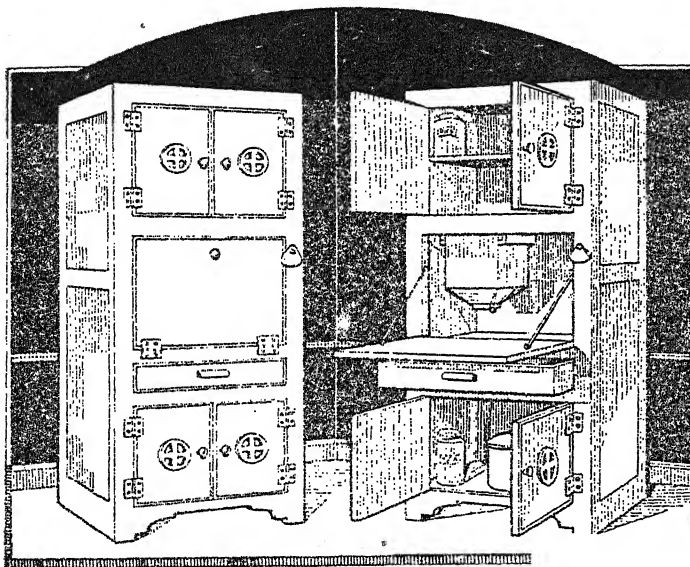
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Hobbies

WEEKLY



A DOLL'S KITCHEN CABINET

Full size patterns inside

Also articles on
Woodwork
Electricity
Philately, etc.
and a new
Competition


June 11th. 1938

2^D

Vol. 86. No. 2225

THE FRETWORKER'S AND HOME CRAFTSMAN'S JOURNAL

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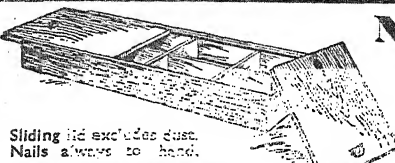


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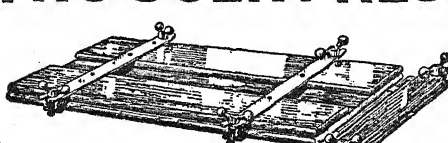


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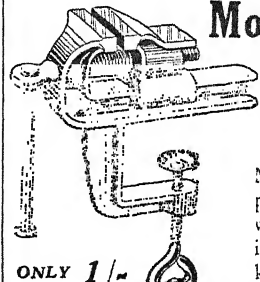
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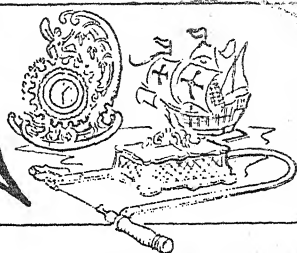
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Hobbies

WEEKLY



June 11th. 1938

Vol. 86. No. 2225

DOLL'S KITCHEN CABINET

HERE is another of those interesting series of models for the Doll's Kitchen, which we are sure will be as popular as any of its predecessors. We have already had two or three, and shall still have one or two more to complete the whole series. So in the end one has a complete set of furniture which would delight any youngster to play with.

Not only are they good to look at, but they are practical in use. An excellent example of this is shown by the complete Kitchen Dresser which is offered with the patterns of this week's centre page drawings. The finished model is seen here, and it is a delightful little toy which stands 12ins. high, 5½ins. wide and is 2½ins. from back to front when closed.

A Realistic Model

That is not all, however. It opens out just like the prototype as can be seen in the second picture, following out in a realistic manner the real dressers of the modern kitchen.

Four doors provide ample interior cupboard space, whilst in the centre there is a drop leaf forming the pastry table complete with flour hopper fitted to the underside of the top shelf.

Beneath this drop front, too, is an ordinary drawer, whilst the front of all the doors are fitted with circular ventilators.

The whole thing is easily made from a few pieces of fretwood and, of course, the use of the fretsaw and the usual other tools. In addition, there are sundry small knobs for the doors, etc., as well as hinges and a piece of small chain and two screw eyes for holding.

The best plan is to get the special parcel of wood supplied, because then you have

the various parts in their correct sizes and thicknesses, in suitable wood planed already to start. Moreover, the fittings are also supplied complete.

We may say here that the model can be made up in plywood, but this always creates the difficulty of screwing the parts together.

It is no easy job to drive thin fretwork screws into the various thicknesses of the ply glued together. It can, indeed, only be done by boring a hole very carefully, almost large enough to take the shank of the screw.

A better plan is to use seasoned fretwood of the correct thicknesses so that not only can glue be applied, but also tiny fretnails or screws if required.

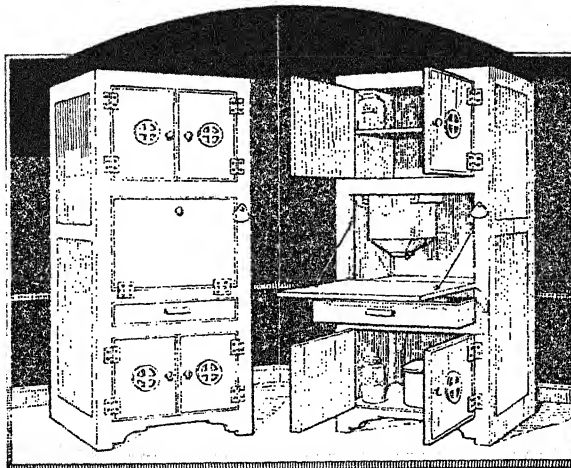
Marking the Parts

Most of the parts are plain rectangles, and there is really not much need, therefore, to paste the patterns down to the boards. Measure the sizes off carefully, and transfer the dimensions to the wood direct.

Or you can lay the paper to the wood, then prick a hole at the corners afterwards linking up with pencil on the face of the board. The parts which do require shaping are the little wheels forming the ventilators, and the lower edge of the back and front.

Notice that the single pattern shown will have to do for both these parts with this difference. The back is a solid piece cut to the outline only. The front, on the other hand, contains the doors, and these can be cut from the same piece.

The sawblade actually runs between the double lines shown, and a very fine drill point should be used at one of the corners, so its position will not be seen after the cutting is completed.



By the way, when you have cut round these various doors, drawer front, etc., replace the actual piece in the framework and just mark a pencil line across the sawcut. This need only run on to the door and on to the outline piece itself about $\frac{1}{4}$ in., but will be sufficient to ensure that the piece of wood is returned to the same position and the same way round.

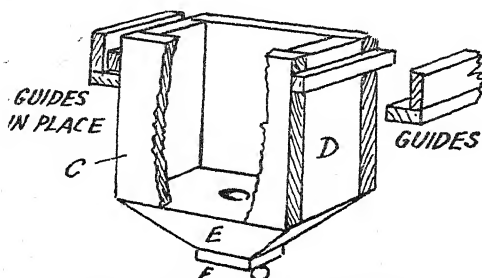


Fig. 1—How the hopper is made and fitted

A medium fretsaw, by the way, should be used in cutting out these doors, to allow for the swing when they are in use. They can be hinged right away with $\frac{1}{2}$ in. brass hinges at the points given by the dotted lines, whilst the little four circular ventilators can also be got out and screwed in position with round-head screws.

Temporary Fitting

Do all this work more or less temporarily because when you are going to glasspaper and paint up the whole thing afterwards these parts will have to be taken off. There is actually no need for the hinges to be stripped, but it makes a neater job if you do so, and replace them after the paint has been applied.

The piece which forms the drawer front should be laid aside until we come to the construction of the drawer itself, but the drop front immediately above it can be hinged on, then fitted with a piece of chain on the inside to prevent it from falling too far.

A screw eye can be fitted inside the cabinet, and another to the inside of the drop front near the forward edge. The chain is then put on so it is taut when the front is open. The front and back of the cabinet are thus complete, and we can now fit on the various parts between to form the whole framework.

The pattern of the shelves, it will be noted, are broken in two in the printing, and the parts shown have to be extended to the dimensions given on each. The two sides, four shelves and bottom of drawer are all $2\frac{5}{16}$ ins. wide, and it is important, of

course, to see that they are all this exact width with edges flush with each other.

The lengths of the various pieces are shown, and in every case one must see the edges are straight and true. All these parts go between the back and front, and are there glued securely.

The Cross Parts

The best plan is to glue all these projecting pieces to the back, then finally to glue the front on over the whole lot. Make sure in doing this that the parts project at right-angles from the back and use a square to test them. Fit on the two long sides, then put the top and bottom between them. These are two of the shelves A. The lower one fits $\frac{3}{4}$ in. upwards from the bottom edge of the sides.

If necessary you can put tiny blocking pieces round the back and sides to strengthen the whole thing up. These blocking pieces should not be more than $\frac{1}{4}$ in. stuff, and triangular in section if possible.

Notice the position of the two centre shelves (A.A.). The upper one comes immediately below the opening of the doors, whilst the lower one comes immediately below the opening of the drop front.

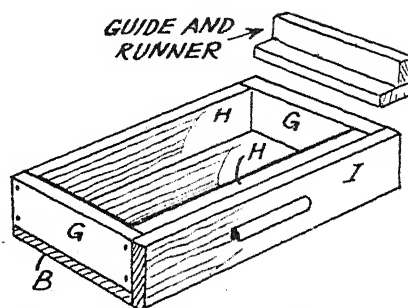


Fig. 2—Construction of the drawer and guides

Before putting on the front itself it is best to finish off the interior by adding the hopper, guides, drawer, etc. A detail of the hopper is given at Fig. 1. This is made from small pieces of wood fitted as shown.

The main body of the hopper is simply a square

box-like frame to the bottom of which is fitted the piece J. This is a thick piece of $\frac{1}{2}$ in. material through the centre of which is bored the circular hole shown. Then it must be filed to a taper on one face, as can be seen by the drawing herewith.

The filed pieces must follow the edges indicated by the dotted lines so that the four sides slope inwards, but have a flat base to which is screwed the little piece F.

CONTENTS

DESIGN—Doll's Kitchen Dresser

Doll's Kitchen Cabinet	241
Hobbies Correspondence Club	243
An Adjustable Electric Fan	244
Maze Competition	245
A Wind Harp	246
Making a Variable Resistance	247
How to Polish Turned Work	249
A Simple Garden Fountain	250
Doll's Kitchen Cabinet Patterns	253
Dutch Figure Clock	255
Hints and Tips	256
Preparing the Tent	257
Plastic Wood Inlay	258
Keep Fit with Swimming	259
Fitting a Winding Type Door Bell	260
Editor's Notes	261
New Stamp Issues	263

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This as shown on the pattern is fitted with a round-head screw towards one end, and provided with a knob at the other. It should not be screwed right home, but just sufficiently to allow for the piece (F) to turn and release the sand (flour) which may be utilised in the hopper itself. This allows the contents to pour out until the inverted lid is turned home again under the hole in the main box.

Hopper Guide

The whole hopper slides in and out on guides, and these, too, are seen in the illustration. Each guide is made up of two pieces glued together, then a ledge glued to the hopper itself $\frac{1}{2}$ in. downwards from the top edge. In the drawing one of these guides is in place, and one of them is taken away to show construction.

Glue one of the guides close to the side, and to the underneath face of the top shelf. Put the hopper in position then mark with pencil the position of the other guide before gluing it in place.

The front of the hopper, by the way, is also fitted with a small knob so the whole thing can be pulled out as required. These little knobs, it may be noted, are very tiny, and have only $\frac{1}{16}$ in. diameter shank. A hole should, therefore, be bored for them with a drill bit only and the knob pressed home and glued in place.

The Drawer

Next we can turn our attention to the drawer, and here again the detail (Fig 2) will help. The front and back parts H are glued between the ends or sides (parts C) and the whole thing fitted as a framework to the base of the drawer (part B).

Get all parts upright then over one long side glue the actual front to the drawer itself. This serves to cover up the edges of wood which would otherwise be seen.

A little strip of wood forms the handle, and the section by the side of the pattern shows the shape

MATERIALS SUPPLIED

Fretwood.—For making this Cabinet, we supply a parcel of Beech including seven (No. 80) Knobs, for 3/- or post free 3/6.

Fittings.—Four small screw eyes and five pairs of Lin. Hinges 9d., with brass chain, post free 10½d.

A complete parcel of wood and fittings for all parts 3/6, post free 4/-

to which this should be rounded off. Guides and runners, as shown in the detail, are formed and glued to the sides of the cabinet itself, the runner forming the part upon which the drawer rests.

Small Fittings to Add

All the doors, of course, are fitted with small knobs for opening, whilst the drop front is prevented from falling forward by a little counter weight piece nailed or screwed loosely where indicated on the pattern.

This drop front is prevented from falling inwards by the addition of a little stop glued on the underside of the shelf. The whole toy can be left with the wood in its natural state, after a thorough cleaning up, or can be painted suitably in blue and white.

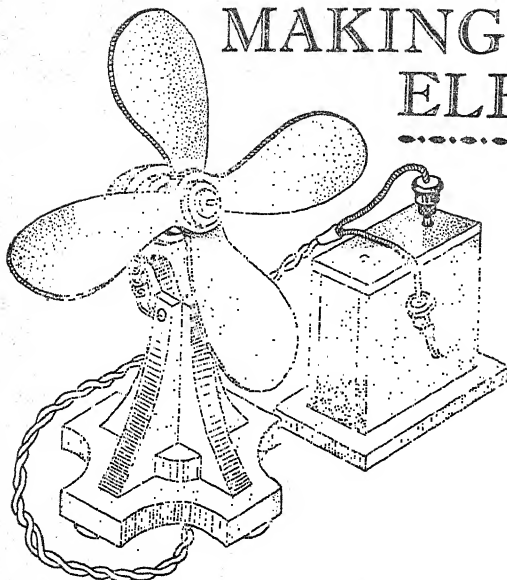
The sides and doors can just be panelled with a line rectangle. In doing this, let the paint harden thoroughly before the doors are shut, or you will find they may stick.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

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MAKING AN ADJUSTABLE ELECTRIC FAN



ON a hot, stifling day, an electric fan is a great thing to have in the home. So here are details of a simple, inexpensive battery model, the cool breeze of which is delightful and wonderfully refreshing.

The current comes from an ordinary 4.5 v. flashlamp refill concealed in a wooden box, the top of same having two holes for wireless plugs for contact with the battery arms and thus serving for a switch as shown. The motor is a miniature one having a barrel $1\frac{1}{2}$ in. long by $\frac{1}{16}$ in. diam. It is known as the "Daimon" and costs $\frac{5}{6}$ in most electrical shops.

It is worth buying this tiny motor, for apart from being ideal for working fans, it only weighs $1\frac{1}{2}$ ozs., and is suitable for model aeroplanes, boats or any purpose where smallness and lightness is important. The current consumption is 0.12 amp off load, to 0.3 amp on load so that practical results can be obtained from even a 3-volt battery. The r.p.m. is 3,000 and the "drone" not unlike a real aero engine.

Making the Standard

The standard could be the first thing to construct. Cut out the pieces shown at Fig. 1 from $\frac{1}{2}$ in. wood, including the base at Fig. 2. As it is imperative that the flex running from the battery to the motor must (or should) be concealed in the standard, drill suitable holes through these parts before gluing together and affixing to the base. The holes, of course, are drilled centrally up the half-checks.

Small corner blocks (cut from the waste of the base) are glued to the base top as in the illustration. The electric motor casing detailed in Fig. 2 is cut from $\frac{1}{2}$ in. stuff, with the washers from $\frac{1}{2}$ in. material. Having rounded the neck end of the casing (see side elevation at Fig. 4), drill a suitable hole through for $\frac{1}{2}$ in. by 4 roundhead screws for pivoting the casing to the standard.

When fitting the motor, it might be necessary

to bind it with adhesive tape to ensure a tight fit. Another method is to split the side washers to grip against the barrel sides as tight as possible. When fitted, thread a length of twin flex through the standard and bring the ends through a hole in the back half of the standard piece seen at Fig. 4.

Having withdrawn the flex several inches, tie a knot (marked X) and affix the flex ends to the motor terminals by winding the loose wire around them.

The Fan Blades

The fan consists of two pieces of $\frac{1}{16}$ in. plywood cut the size and shape given at Fig. 2. You will also require two hub washers $\frac{1}{16}$ in. diam. by $\frac{1}{2}$ in. thick, and two more $\frac{1}{2}$ in. diam. by $\frac{1}{16}$ in. thick, all being cut from plywood.

Drill central holes in the fan pieces and the washers to suit the shaft of the motor tightly. Now insert a $\frac{1}{2}$ in. washer on the drill bit, then glue on an $\frac{1}{16}$ in. one.

The fan blades follow, then comes the other $\frac{1}{16}$ in.

MATERIALS REQUIRED

- 2 standard pieces, 4 ins. by 3 ins. by $\frac{1}{2}$ in. thick.
- 1 base piece, 4 ins. by 4 ins. by $\frac{1}{2}$ in. thick.
- 1 motor case piece, 3 ins. by 2 ins. by $\frac{1}{2}$ in. thick.
- 2 fan (3-ply) pieces, 7 ins. by 1 ins. by $\frac{1}{16}$ in. thick.
- 1 box top, 3 ins. by 1 ins. by $\frac{1}{2}$ in. thick.
- 1 box bottom, 4 ins. by 2 ins. by $\frac{1}{2}$ in. thick.
- 2 side pieces, 3 ins. by 3 ins. by $\frac{1}{2}$ in. thick.
- 2 end pieces, 3 ins. by 1 in. by $\frac{1}{2}$ in. thick.
- 4 wooden or rubber feet.

Electrical components are obtainable locally.

NOTE.—In case of difficulty, the motor (Cat. No. 630-308) is obtainable from L. Wilkinson, 204, Lower Addiscombe Road, CROYDON, England for 5/9, post free.

and $\frac{1}{2}$ in. washer. A smearing of glue should be between each part so they can be squeezed together (on the drill) and the blades of the fan adjusted to right angles.

When the glue sets, the drill is removed. Before it does so, however, see that the fan is perfectly balanced and not in twist. You can tell this easily by revolving the work by means of the drill.

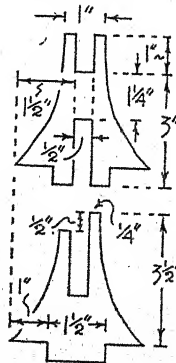


Fig. 1—Size and shape of stand parts

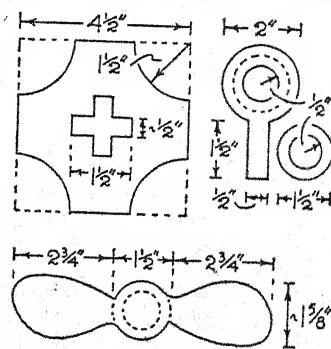


Fig. 2—Dimensions and shapes of base, motor casing and fan blades

Having made the fan, it is forced on the motor shafting and tested via the battery. When forcing the fan on, by the way, keep your thumb behind the motor so as not to cause damage to the back terminal boss.

The battery box is made throughout from $\frac{1}{4}$ in. plywood. Fig. 3 gives the necessary sizes of the sides, ends, top and base. The sides, you will note, have tenons for the mortises cut in the base piece.

In order to change the battery, the box should be held temporarily to the base by the tenons.

Four wooden toes may be glued to the base or you could use brass or rubber feet. Such are necessary in view of the flex running beneath the

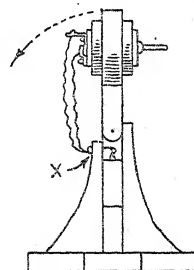
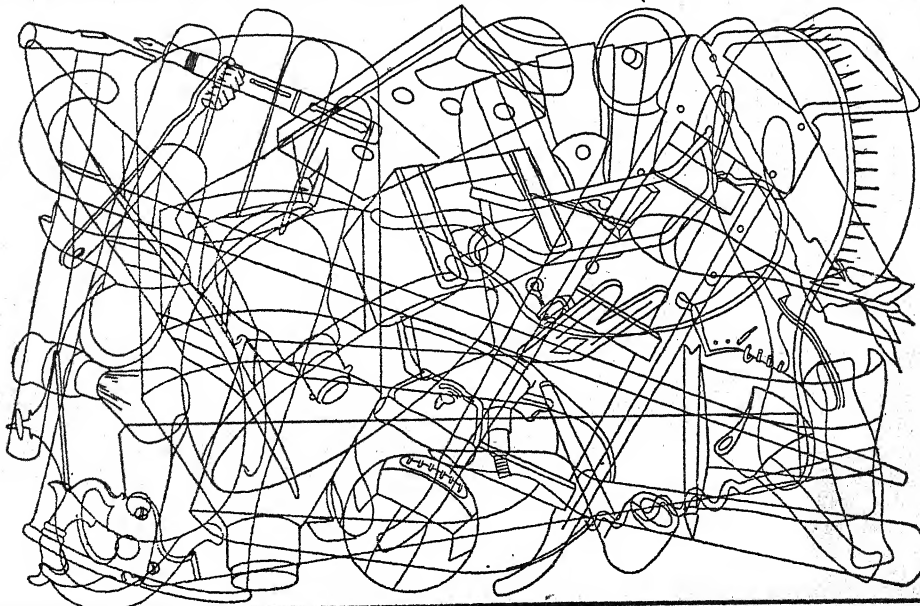


Fig. 4—A side elevation

If you wish to reverse the direction of the fan, change the plug positions. The motor works best, however, in the clockwise direction.

THESE simple competitions are always popular, everyone stands a chance. See how many everyday articles you can spot in the drawing below, make a list of them and put the total at the end with your full name and address. Send the entry to the Editor, Hobbies Weekly, Dereham, Norfolk, to arrive by June 18th. The one with the complete list of all correct articles will get a Gem Fret-machine (value 30/-) as 1st Prize with a Guinea Swan Fountain Pen as 2nd Prize for the next best. In the event of a tie, neatness will count. Editor's decision final and names of winners in Hobbies Weekly later.

Closing Date
June 18th



MAKING A WIND HARP

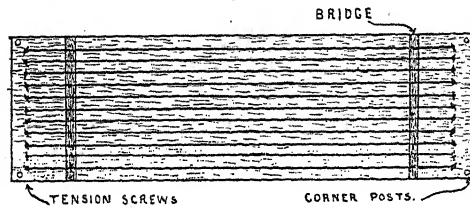
AN Æolian, or Wind Harp is quite easy to construct and needs no skill in playing, for if properly built and fixed into a suitable place, the slightest breeze will set its strings vibrating and strange, beautiful tunes will be heard at the most unexpected moments.

There are one or two special points that must be observed in the making of these harps in order that they will play well. The first is in the kind of wood to use, and the second, that no nails must be used in fixing the parts together.

As this particular harp is designed to fit across an ordinary window, it is impossible to give any dimensions as to the length, these, of course, depending upon the width of the actual window it is to occupy.

The Box Frame

A box of thin-straight-grained wood is prepared, having a length equal to the width of the window, a depth of 5 ins. and a breadth of 6 ins. Deal is the ideal wood to use, but as some difficulty may be experienced in getting this nicely planed down to an equal thickness of $\frac{1}{4}$ in., it is best to use fretwood of that thickness. Satin walnut is the best for the purpose.



Looking down on the harp without the cover

Make the joints as true and clean as possible, and secure them with liquid glue, cramping the box together until the glue has set hard and then removing the surplus, which squeezes out, with fine glasspaper.

Two bridges are necessary in this type of harp, these being glued at either end of the case at a distance of about 9 ins. from the edge. Sound hardwood, such as holly, box or even elm, is used for making the bridges and these should be the full breadth of the case, $\frac{1}{2}$ in. high and $\frac{1}{4}$ in. thick.

Tuning

Tuning the harp is done by means of a row of ordinary wood screws driven in along the edge of the case. Holes are drilled to receive the screws so they may be turned easily, yet have sufficient hold to keep the strings at the correct tension.

It is advisable to glue a thin fillet of beech along the edge to provide a hold for the screws, or they may soon lose their grip in the soft wood of the case itself. With the usual slotted wood screw it

will be necessary to use a screwdriver for tuning. This may be obviated if small strips of metal are soldered into the slot so that a grip for the thumb and finger is provided.

Gut may be used for the strings, but a much stronger, sweeter tone is obtained if piano wire is used instead. The strings are tuned in unison, in any key, and piano wires may be obtained in the particular tone required. This assists a great deal in the first tuning of the instrument.

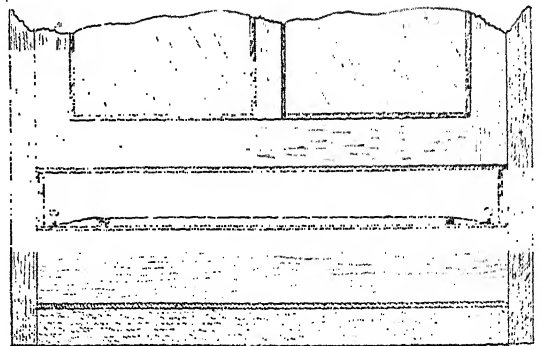
Window Sash Supports

Into each upper corner of the case a 4 in. length of $\frac{1}{4}$ in. dowel rod is glued, a shallow hole being first bored for its reception. Make sure these pegs are perfectly upright, rigid, and of exactly the same height. Now cut a piece of satin walnut to exactly the same size as the sound board of the harp and all is then ready to fit the finished instrument into place.

Raise the window sash and place the harp across the opening, as shown in the sketch. If you have been very careful with the measurements, the case should fit exactly and just tight enough to hold it firmly in place. Now place the loose board neatly on the corner pegs and lower the sash down on to it, so it is pressed firmly, but gently down on to them.

How it Plays

Soon a draught of air will send a gentle ripple over the strings and you will hear a faint, very sweet and pleasing tune coming from them. Then a sudden gust of wind may come along and the music will rise to a crashing crescendo, fading away, to again crash out with the force of a great orchestra.



Side view of harp in position in the window

The illustrations should make the construction and fitting of this oldest of musical instruments quite an easy matter. You can, of course, make the sound case much wider than that shown and fit more strings, which will increase the compass of notes and add greatly to the variety and volume of your music.

A GREAT many instances arise in electrical work where some means of controlling the amount of current flowing through a circuit is indispensable. Every one who has accumulators to charge for instance knows how difficult it is to keep the charging current at anything like a constant value throughout the charge.

It is not sufficient to adjust it once for all and then leave the accumulator to itself for a certain number of hours, as owing to changes in the counter electromotive force of the accumulator the current will gradually and continuously fall off from hour to hour. Unless means are taken to keep it fairly constant in value it will be impossible to estimate the total "ampère-hours" of charge that the accumulator has had given to it.

Again, one may want to control the speed of a small motor used for driving a model railway. When the current is derived from a battery or a mains transformer this can be accomplished by using some device to vary the current through the motor.

Variable Resistances, or Rheostats

An appliance which serves for both purposes of control is the Rheostat, or Variable Resistance, and where low voltage circuits are concerned, such as in the above two examples, the amateur can quite easily make up his own apparatus on the lines shown in Fig. 1 at quite a small cost.

A glance at the circuit diagram in Fig. 2 will show exactly what part a resistance plays in controlling the current.

It will be supposed that an accumulator has to be charged from some source of current such as a battery or a dynamo, an ammeter being included in the circuit to indicate the exact rate at which charging is proceeding. Upon the circuit first being closed a current will pass from battery to accumulator, and the amount registered by the ammeter.

After a time the ammeter will show that the original value of current is falling off. This is because the

counter electromotive force of the accumulator is increasing. Also, possibly, the voltage of the battery or dynamo supplying the current is falling slightly, due to heat or to polarisation effects.

In order to keep it at a reasonably constant value, therefore, some means of varying the actual resistance of the whole circuit by hand must be included. Thus the resistance of the circuit can be diminished progressively and gradually to compensate for the tendency of the charging current to fall.

If a coil of resistance wire for instance is made up into some convenient form and included in the charging circuit in the first instance, more or less of this additional resistance can be cut out by means of a sliding contact and the charging current thereby kept reasonably constant.

Materials Required for the Rheostat

Most of the standard variable resistances on sale are unfortunately fairly expensive. For use in amateur experiments and very occasional work something far cheaper and equally efficient can be devised. The materials required to build up such a Rheostat are quite inexpensive, and are enumerated below, the letter references corresponding to those given in Fig. 1.

- A.—A piece of hard wood such as beech or mahogany for the base measuring 5ins. by 5ins. by $\frac{1}{2}$ in. thick.
- B.—A tube or "former" upon which the coil of resistance wire is wound. An empty case such as sticks of shaving soap are now commonly sold in, with a moulded screw cap, is very suitable for this item. The cases being made of "Bakelite" or synthetic resin are not only excellent insulators but they resist heat also very well. These cases measure about 1 $\frac{3}{8}$ in. diameter by 3 $\frac{1}{2}$ ins. long and are drawn to scale in the figures.
- C.—A strip of hard springy brass five inches long by No. 22 gauge tapering from $\frac{1}{2}$ -inch wide at one end to $\frac{3}{8}$ in. long at the other. This forms the contact lever and is pivoted at its terminal end, bent back upon itself to give it added elasticity, and slides over the surface of the resistance coil.
- D.—Two brass strips 5/16in. wide by 1/16in. thick, bent up into the shape shown in the end view of

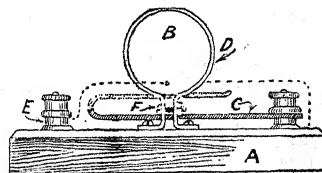
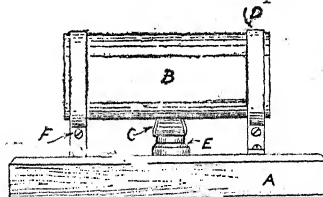
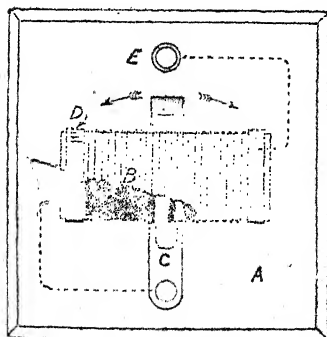


Fig. 1—A plan, side and end view of the instrument

Fig. 1. One of these is slipped over the coil at each end to hold the wire, and held by its pinching screw and nut F, the feet being bent outwards for attachment to the wood base.

E.—Two brass terminals, Post Office pattern, with double nuts and washers.

F.—The two pinching screws used with D are $\frac{3}{4}$ in. long by No. 4 B.A. thread

The final item is eight yards of No. 20 SWG "Eureka" resistance wire, enamel covered, which is obtainable from an address the Editor can supply. This is a special wire having a constant "temperature coefficient," which in plain language means that it keeps of practically constant resistance throughout the range of its working temperatures.

Building Instructions

Plane up and glasspaper the base smoothly, giving it a coat of good varnish or french polish, and drill the holes for the two terminals in the position shown. Prepare the brass clips D for holding the coil to the base and the brass contact lever C.

If these are polished bright with fine emery paper and lacquered it will considerably improve the general appearance.

Winding the resistance coil can be done by hand,

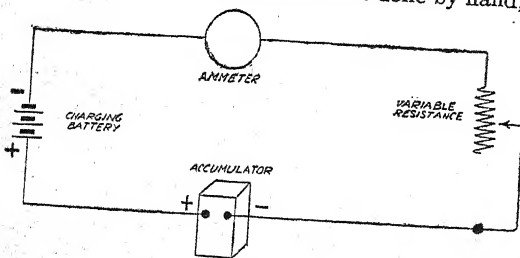


Fig. 2—The circuit diagram

or in the lathe if one is available. It is essential that all the turns of wire should be pulled tightly and evenly and that they lie quite close together. Avoid any kinks in the wire or damage to the enamel covering.

The ends of the resistance wire can be led out of the former through two small holes drilled in its

ends leaving the wire sufficiently long to reach the terminals on either side.

As soon as the coil has been completed slip one of the brass clips D over each end and tighten up the pinching screws F. This will grip the wire firmly and prevent the wire from slipping. The feet of the clips can then be screwed down to the wood base and the coil ends connected up to the two terminal posts as shown by dotted lines in Fig. 1. Bare the wire from enamel with fine glasspaper where it is pinched under the terminal nuts.

Making Contact

Before the coil is finally screwed down, the enamel covering on the wire where the sliding lever makes contact, must also be scraped off so metallic contact is assured. This is best done with fine glasspaper stretched over a flat strip of wood and used as a file. The rest of the enamel covering is protected by a C-shaped piece of cardboard held round it so that a track only about half an inch wide is exposed.

The contact lever as it slides to and fro over this track includes more or less of the resistance wire in circuit between the two terminals and so enables a finely graduated adjustment to the current flowing through it.

Resistance and Capacity

With the particular coil specified its total resistance will be about $5\frac{1}{2}$ ohms and its maximum current carrying capacity three amperes. This will be found a very handy combination for small accumulator charging purposes or as a speed controller for small motors used for model driving.

Since there are approximately 65 turns of wire on the former, and the contact lever passes over only one at a time, sudden variations in the resistance are impossible and it is in fact equivalent to a regulator of the "stud" type with 65 contacts each varying by 8-100ths of an ohm.

Other values of current capacity and resistance can, of course, be arranged by modifying the gauge of wire used on the coil, and readers desiring anything different from the foregoing are invited to send for a specification.

Polishing Turned Work—(Continued from opposite page)


A small quantity of polish is applied to the end of this cylinder, and a piece of used linen rag wrapped round it, the part where the polish oozes through being touched with linseed oil, and then applied to the work, passing it along the same as it revolves, and seeing that all parts are covered.

The friction will soon cause a gloss to appear, but it will not be lasting at first. If the rubber is kept supplied with polish, however, the continued friction will soon take effect, the pores of the wood will gradually become filled in, and a lasting polish will result.

The purpose of applying a coat of polish with the brush is to ensure that all parts are covered, which is much easier to do with brush than with rubber, although the latter will polish in parts where it would not cover in the first place.

If time will allow it is well to lay each part on one side for a few hours and then to give it a final rub. The real secret of good polishing is, very little polish but plenty of friction. The latter is somewhat assisted by running the lathe backwards as well as forwards, to rub the work from each direction.

Oak is Oiled Only

It is usually considered that  window it be polished, but oiled only. But the many other wood either unstained or stained chemically, can be polished as described. Temperature has a good deal of influence in polishing, and the best results are attained if the work is done under warm and dry conditions. Damp and cold have a dulling effect throughout the operations.

How to Polish Turned Work

Lessons in Woodturning

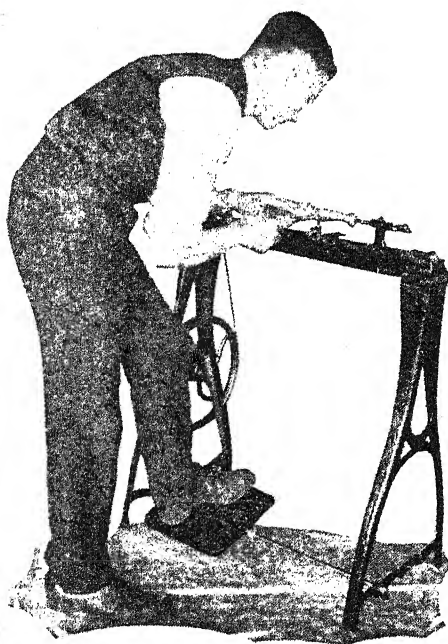
ALTHOUGH the actual staining and polishing of turned work is the same as in ordinary surface work as regards the material used to obtain the same results, yet it is as well to vary the methods of application of these materials, not only for the sake of economy in these, but in the time and ease of application.

This means that instead of doing the whole of the staining and polishing on the finished article, as would be done in ordinary work, it is best done in the lathe itself as the work proceeds. That is, as each member of a particular article is turned, it should be stained and (or) polished before removal from the lathe, or at least before the centres are trimmed away.

Filling the Grain

In the case of very porous woods the grain can be filled in the same way as for ordinary polishing, by means of whitening mixed stiffly with raw linseed oil, and coloured by adding brown umber, venetian red, or vegetable black, to bring it somewhat near the colour required.

This is applied to the wood on a piece of canvas or rag, while it is revolved in the lathe, applying pressure to force it into the pores of the wood, and then removing the surplus with a clean piece of canvas until the surface is apparently the same as before. The objection often made to the filling is that it fills up the smaller members of the pattern and is difficult to remove.



This objection is a very valid one, therefore it is as well to use filling on large work only, or at least on work which has no intricate patterns, and allowing the pores to be filled with the polish only. This may seem an apparent waste of time, but possibly proves the reverse by the time the work is finished.

The Use of Stain

Any kind of wood looks well when polished without staining of any kind, but it is often necessary to stain to a certain extent so as to match other work or other articles, or even to match the various parts in the same article, the same wood often varying in colour. Stains can be had to match almost any kind of wood, not only coloured, but black, and the ebony stain is really black.

These stains are sold in powder form, and need dissolving in water only, but when using them for turned work do not use them too strong, it is better to give two coats to attain the required depth, than to make the work too dark at first. The one error is easily remedied, the other is not so.

How to Stain

The stain should be applied to the work with a soft clean brush while the work is slowly revolved. Always apply the full brush of stain to the quirks and hollows, thus making sure that these are covered, the plainer surfaces cannot very well be missed.

After the work is well covered, apply a piece of canvas or rag to the surface, revolving the work at a good speed, and running it backwards at times as well as forwards, and paying particular attention to the quirks and corners.

Using Linseed Oil

The staining done and rubbed off (and this latter may well be finished by applying a handful of the turning chips to the work as the latter revolves), the work should be given a coat of raw linseed oil, applying it somewhat plentifully, but rubbing as much off as possible. Again pay particular attention to the small members and corners, so that no free oil is left on any spot, but at the same time making certain that all parts are well oiled.

After the oil, the polish. It is as well to brush on a coat of french polish to form a body, but do so quickly so no lumps are formed. After it is dry, give the work a slight rub with fine worn glasspaper, and then the actual polishing can be commenced. For this a rubber is needed as in the ordinary polishing and consists of a strip of cotton wool some 3ins. by 15ins. long, rolled up tightly so it becomes a cylinder of something over 1in. in diameter by 3ins. long. It is as well to tie it round the middle to keep it in shape.

(Continued on opposite page)

Try your hand at making this SIMPLE GARDEN FOUNTAIN

A FOUNTAIN is an added attraction to any garden or greenhouse and while that about to be described is perfectly simple to make, it will work well and for a very long time at one charge, if the following directions are closely followed.

The reservoir or water container consists of a large, strong metal drum. The kind used for storing motor oil, with a screw cap and of about ten gallons capacity is ideal for the purpose. Clean the drum well out by rinsing it first with paraffin oil and then with boiling water to which a handful of washing soda has been added.

A Clean Drum

This cleansing is most necessary, for if any of the oil which the drum originally contained remains it may choke the narrow jet of the fountain and cause it to cease work until it is cleared.

Now see that the drum is quite airtight and that the screw cap is a good fit. It may need a new leather washer fitting so it will bed down tightly. Near the screw cap drill a hole large enough to pass a cycle valve stem through and having found an old valve, strip it down to the barrel.

Pass the barrel down through the screw cap hole and work it up through the hole you have drilled. This may require some patience and a little ingenuity, but it can be done, providing the hole is drilled quite close to the screw cap.

Assembling the Valve

Having passed it down and up through the holes, secure it in place with the nut used to hold it on to the cycle tube and then reassemble the whole valve in the usual manner. It is as well to fit a

new length of valve rubber at the same time and so make sure of perfect results when the fountain is completed.

Now in the centre of the drum drill another hole of a size to fit a length of small copper pipe. If you can obtain a length of petrol pipe from the garage, fitted with a small tap, the most difficult part of the work is overcome. Very often a suitable length of pipe can be had from the scrap-heap, all ready for fitting up, at the cost of a few pence. If so, it is much better than attempting to rig up a tap of some other kind.

The Jet

The end of the copper pipe is to be soldered into the central hole, but before this is done, it is best to arrange for the fountain jet at the other end. It should be noted that the smaller the orifice of the jet, the longer the fountain will work with one charge of water and air.

You must also decide whether a single jet of water is to emerge or if it is to come out in a series of jets to form a spray. Whichever type is adapted, the procedure is much the same.

Jet or Spray?

Solder a plug or cap of copper on to the free end of the pipe and if a single jet is chosen, drill a very tiny hole in the middle of the plug. For a spray, drill a number of tiny holes. These holes must be really small—not larger than the diameter of a small pin, for not only is the effect of a fine jet of water much better, but the fountain will play a great deal longer than if a large jet hole is made.

Now solder the pipe in place, taking great care to make a sound job so that it is quite airtight, and then test the fountain under working conditions.

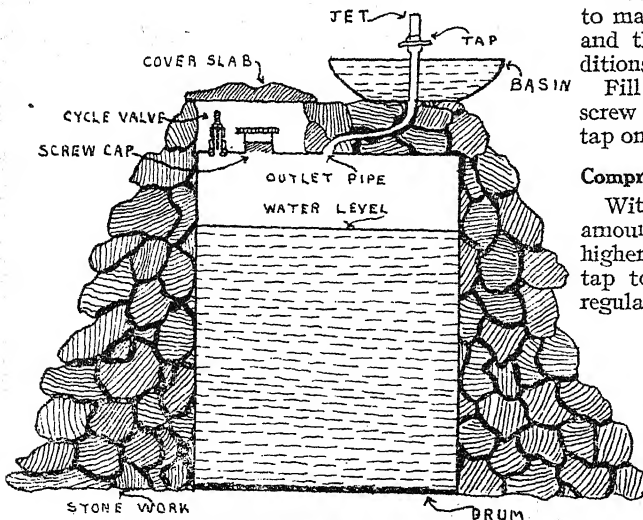
Fill it three-quarters full with clean water, screw the filling cap tightly down and turn the tap on the pipe to the closed position.

Compressed Air

With a cycle pump fill the drum with a good amount of air; the more air you put into it, the higher the jet of water will rise when you turn the tap to the open position. The height may be regulated to some extent by the amount the tap is turned, so if you want the fountain to play for a very long time with a jet two or three feet high, just open the tap a very little way when a good filling of air has been blown in.

The whole arrangement should now be placed into the position selected for it. If required, an ornamental basin can be made with the jet rising up through the centre.

(Continued foot of page 255)



A sectional drawing of drum, fountain and rock covering

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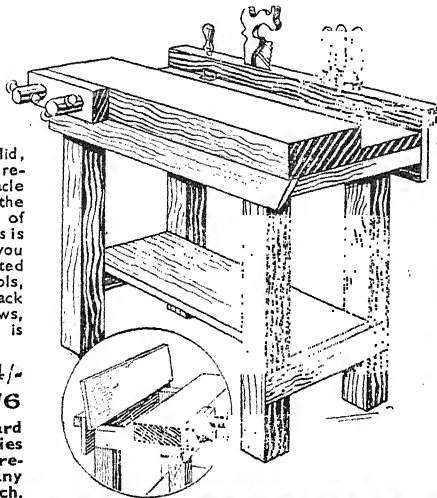
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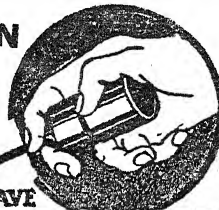
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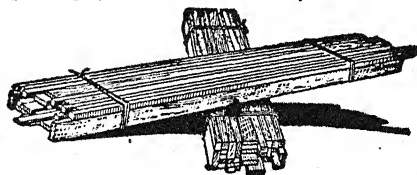
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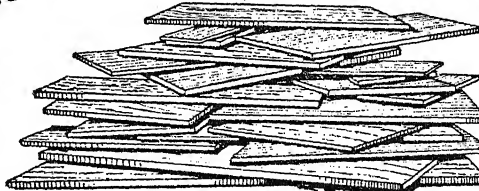
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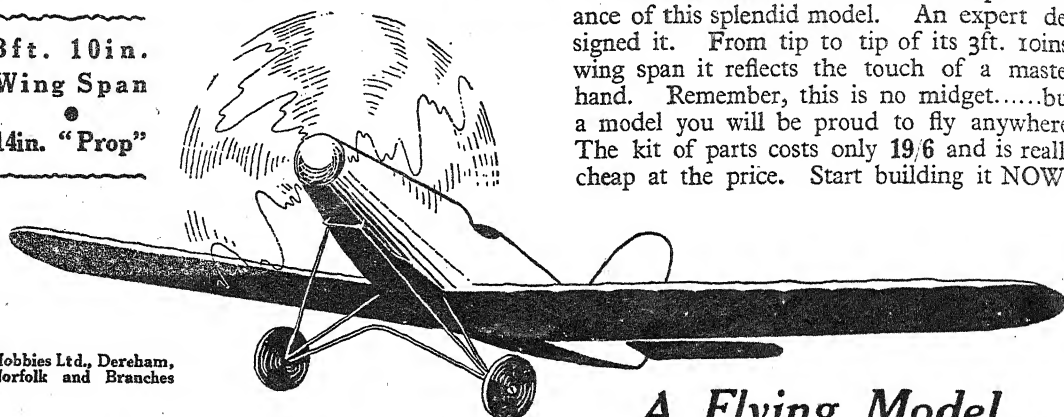


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A Flying Model

LOW-WING MONOPLANE

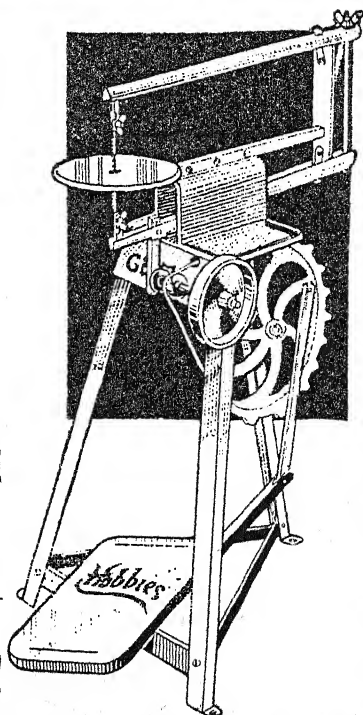
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SIMPLE DUTCH FIGURE CLOCK

HERE is a charming little clock, on very simple lines too so that it can be made up quickly and easily. The whole idea of the front is centred upon the Dutch figure seated on the log of wood, and the clock itself is contained in a drum on the left. The whole front is set upon a simple base.

At Fig. 1 is a plan of the base, which measures 7 ins. by 2½ ins. by ¾ in., with a mortise cut to the measurements. Four corner feet are added to the base 1 in. square by ¾ in. thick and glued half on as shown in the sketch. These feet should be fixed last when the other parts have been completed.

For the main front a piece of wood measuring 7 ins. by 6 ins. is cut square, a series of ½ in. squares will be drawn out upon it in soft pencil.

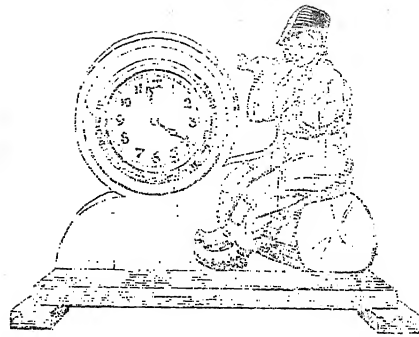
Figure in Colour

The Dutch figure transfer (No. 5608) from Hobbies (price 3d.) is cut out with scissors and then applied to the wood with the proper transfer fixer or polish in the position shown in Fig. 2.

The outline for the fretsaw cutting is thus given in regard to the figure. Follow round the transfer with the saw as far as the knees of the figure and here run off to the shape of the clock frame. The outline is given in the squares of the diagram, and also the centre from which to strike the circles. Wood ¾ in. thick is used for this main front.

No attempt should be made to clean the cut edges with glasspaper as this would spoil the transfer on the front.

The casing for the clock will next be made, and a glance at the sectional diagram Fig. 3 shows how



this is made. This must first be a ring of ¼ in. wood cut for gluing on the front of the upright. The radius for the outside of the ring is 1½ ins., while the inside is 1 1/16 in. radius, and after cutting out, the outer edge of the ring is rounded with glasspaper as Fig. 3. Glue this ring on with an even margin of 1/16 in. all round.

Another ring is next cut, also from ¼ in. wood, with an outside radius of 1½ ins. and an inner radius of 1¼ in. The inner surface of this ring should lie exactly level with the opening in the main upright, so when the bendable plywood is inserted this lies flat right up to the front shaped ring.

Finish the drum with a piece of 1/16 in. plywood 1¼ ins. long by approximately 6½ ins. wide. It will be noted that the grain of this plywood runs across and not lengthwise of the piece. Coat the interior of the wood rings with thin glue, then bend the plywood and insert it so it fills out the space.

If oak has been adopted for this article, the finish should consist of a light staining, afterwards rubbed up with polish or even varnished.

The clock is inserted by first removing its back plate and then pushing the movement through from the front. In refixing the back plate, do not force the small screws on too tightly or the whole drum and movement may become distorted.

The clock is Hobbies No. 5506, 30-hour at 3/9 or No. 5502 ditto at 5/3, carriage extra.

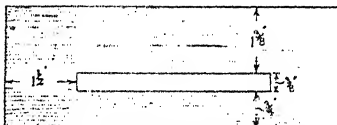


Fig. 1—Dimensions of the base

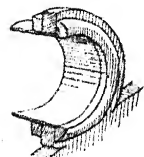


Fig. 3—The clock case in section

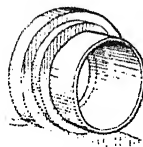


Fig. 4—Back view showing casing

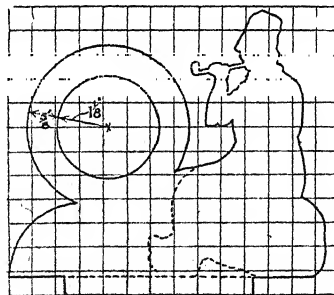


Fig. 2—The main outline in ½ in. squares

CUTTING LIST

Base, one piece 7 ins. by 2½ ins. by ¾ in.
Upright, one piece 7 ins. by 6 ins. by ¾ in.
Rings, one piece 7 ins. by 3½ ins. by ¼ in.
Drum, one piece 1¼ in. by 6½ ins. by 1/16 in. plywood.

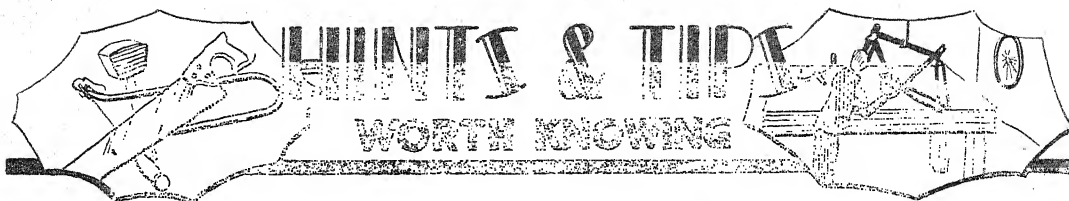
Garden Fountain (Continued from page 250)

Quite an attractive basin can be made from a worn-out enamelled kitchen basin, by first passing the jet up through the bottom and then coating the whole thing with cement; dabbing little pieces of stone or sprinkling it with gravel while the cement is still soft.

It will usually be found better to arrange the reservoir out of sight. This is done by erecting a

rockery over it, but care must be taken to arrange for a single flat stone to cover the filling cap and valve. For these must, of course, be easily accessible when more water or air is needed to make the fountain work.

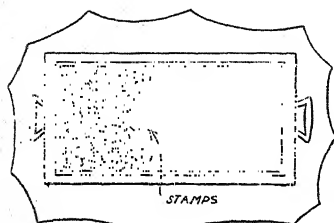
The sectional drawing herewith should make the work of making and erecting the fountain quite a simple matter.



For original Tips published the sender will receive a Hobbies Handy Propelling Pencil. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketch if possible.

Use for Surplus Stamps

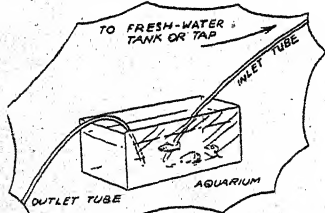
MANY collectors, who are also woodworkers may combine the hobbies in the making of Crazy Trays. Every collector in time accumulates numbers of the commoner stamps, and these can be used to make a very bright



looking tray. Make the frame as usual and before fitting the bottom, cover the entire surface with stamps and cover with glass. The stamps can either form a pattern or be put on crazy-wise, as per sketch, thus producing a very pretty and unusual effect. Old plates, chocolate boxes, etc., can also be covered with stamps and afterwards treated with thin clear varnish.—(A. Wilson, Dennistoun).

To Clean an Aquarium

ALL you have to do is to obtain two rubber tubes of equal diameter and follow the method illustrated. If a fresh-water tank is used, it must be



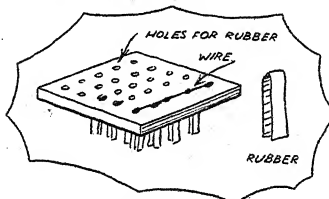
placed at a higher level than the aquarium. The diameter of the tubes must be as small as possible. If this method is adopted, the water would be changing constantly and therefore would remain fresh as well.—(Kok Swee Tuck, F.M.S.)

Removing Tube Caps

AN easy way to remove caps from tubes of paint, tooth-paste, etc. which has become too hard to move with the fingers, is to hold the cap in the steam from a kettle for a short while. It will then be found that the cap can easily be unscrewed.—(G. Harding, Cookham Dean).

Stippling Brush

HERE is an idea for a handy and cheap stippling brush. I have tried this out and the results are really good. A piece of hardwood should be cut to the shape shown, and bored as shown, say $\frac{1}{4}$ in. holes. Strips are then cut from an old inner tube, preferably a thick one, motor cycle or car. These are



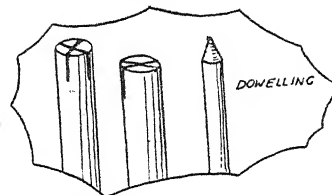
doubled in two, and pulled through the holes in the block of wood. To make the brush stronger still, the rubbers can be fastened by means of wiring. Priming paint should be put on the work to be treated, and then the colour should be applied with a flat brush. Dab the work all over with the stippling brush, and a pleasant result is obtained.—(M. Potter, Laycock).

Solution to last week's Electrical Crossword

T	R	A	N	S	F	O	R	M	E	R
A	M	P	S	H	A	R	C			
I	D	E		I	M	A	G	E		
I	O	W	L		N					
V	O	L	T	I	T	E		E	N	D
O	S	I	R	E	A	T		Y		
L	L		C	E	L	L		S	O	N
T	U	B		S	O	S			A	
A	C	I	D		W		G	L	I	M
G	I	G		O		O	N		C	O
E	D		G	R	A	N	U	L	E	S

Pattern Making

OBTAIN some Hobbies dowelling, different sizes, and make different patterns on the ends with a tenon saw such as shown, or you can chamfer wood to several



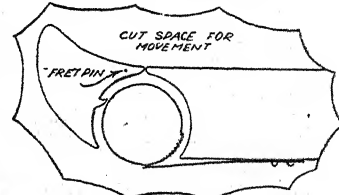
different shapes. Then make your border lines wherever you want them. Give your wood shapes a coating of paint on the end, and then press on the wood and draw away, and you will find that you can make a beautiful border pattern.—(D. Delany, Teddington).

A Cycling Tip

THE constant click of the milometer is often annoying. To end this, take a piece of valve tubing and force it over the striker. It will not come off, if it is not too big. If the rubber is wetted first, it will slip on easier.—(J. A. Oates, Parkgate).

'Quacking Duck' Idea

I N connection with the Quacking Duck toy in Hobbies Weekly, dated Feb. 26th, 1938, a good idea in making the toy more realistic is to cut, as an addition to the tail of duck, a small ratchet which when it runs on the teeth



of the "quack" will easily cause the tail to wag up and down in a very realistic manner (see attached sketch). Cut the tail from the body and drive in a small fret pin to allow the tail to swivel.—(V. R. King, Kenilworth, Jo'burg).

PREPARING THE TENT FOR THE SUMMER

NOW is the time to get out your tent to see that it is in perfect order for the coming season. Strictly speaking, any overhauling necessary should have been done before storing away last autumn, but we are afraid that many people leave small repairs, etc. till camping days are once more near at hand.

For examination and general overhaul, set up the tent in some fairly open position (even though only in a garden) so there will be plenty of space to walk round about.

Having pitched the tent, first inspect the collars surrounding the openings in the ridge where the canvas fits over the poles (in the bell tent there will only be one of these). Usually the actual collar is a circle of rope or cord and this should be firmly secured to the canvas of the tent by strong stitches all round.

Pole Hole Mending

If any of these stitches are breaking away there is danger of the pole going right through the top of the tent when there are any extra stresses and strains about, as on a windy night, or when the canvas tightens rapidly in a sudden shower of rain.

Should repairs be necessary these are made by going right round the circle of cord with one continuous spiral stitch, going over the cord at each turn and getting a fresh grip on the canvas every time the needle comes round, even if this means going a little further down than the original needle holes. The pole of course has to be temporarily removed for this operation.

Now take a look at the eyelets round the eaves through which the guy-lines go. These have a nasty knack of breaking.

Repairs can be effected however in much the same way as with the crowns by making small collars of cord and then sewing them under the broken eyelets with the same type of continuous stitch as described (and shown in the small inset sketch).

Tools to Use

If the tent in question is of light-weight material an ordinary large needle with strong carpet thread will do, but should it be of heavy canvas (like a bell tent) then a small sized "packing needle" will be needed, and fairly heavy twine.

A sail-maker's "palm" is also useful, this being a little leather and metal pad which is slipped on the hand and greatly assists in forcing the needle through thick materials.

Having made sure the crowns and eyelets are in good condition, examine for any place where a stitch or two may have given way

in a seam, as here the proverbial stitch in time may save a lot of work later.

Sew a little distance to either side of the doubtful length, again using a thread suited to the material.

Cycle Patches Useful

Definite rents are mended by putting on a strengthening patch as shown in the top right-hand sketch. The ends of the tear are carefully drawn together in their correct position to one another, to prevent puckering, and then are secured down to the patch by small stitches, the outer edges of the patch being fastened to the main canvas by a line of stitches close round the border.

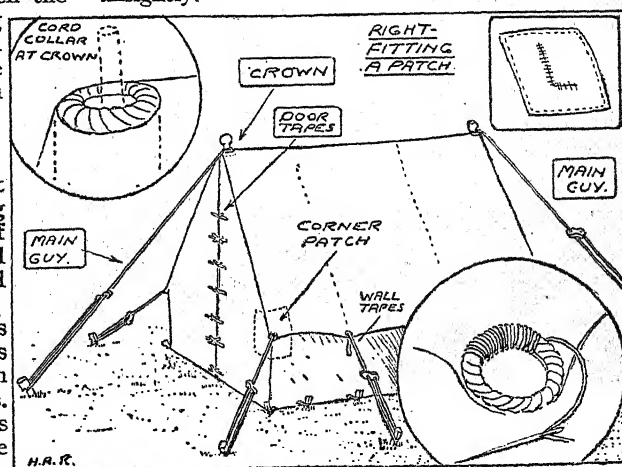
A strengthening patch can often be sewn into the corner where the eaves, wall and roof meet. The strain here is pretty considerable, and it is a point that unfortunately soon shows weakening in some tents. The patch is sewn into the corner with good strong stitches going through to the wall and side, the outer edges being secured as described.

A Mending Patch

Some canvases are inclined to develop a small hole here and there rather early. Although it does not sound very orthodox, such flaws can be mended by one or two of the sticking patches sold to cyclists.

Placed on the inside these patches hold the few frayed threads together, and indeed make a better repair than does stitching, which, unless it covers a good area tends to "chew" up the material round what is really perhaps a very little hole, and so makes it eventually worse.

The only fault with this method of mending, is that the small round discs may be considered unsightly.



While you have the needle and thread about examine the sackcloth or other material strip that runs along the bottom of the walls in many tents.

As this comes in contact with the ground it often rots and becomes tender very quickly. If it is at all out of condition it is best to renew this piece entirely. Also take a look at the door tapes replacing any that are broken and strengthening those that need it with a stitch or two. Examine too the wall braiding tapes.

Check the Pegs

Like many other things it is the small points that matter in looking after a tent. There should be the correct number of pegs always, with it, and these ought to be of suitably graded sizes. Then the two or four pegs for the main guys must be quite long, while the side guy line pegs can be shorter, and those which hold down the bottom of the walls comparatively small.

Runners also should be kept in good condition and any missing ought to be replaced now; model the new pieces of wood from runners already on the tent and use as hard wood as possible.

Check over guy-lines also, and if any make-shift pieces of rope had to be used last year, replace with a length of rope of suitable diameter and quality. Should you be dealing with a side guy-line do not forget the little washer of wood that goes over the knot before the rope is run through the eyelet, as this takes away a great deal of strain from the canvas, distributing the pull more evenly.

A good camper makes a hobby of his tent and knows it by heart, that is to say he can recite the various items of the outfit to himself as he is checking off when packing or unpacking; thus:—"Two large pegs, six middle-sized pegs, twelve small —. Two main guy-lines, four sections of pole, one mallet—etc., etc."

He does this, as he is interested, without much effort and it makes him able to note the absence of any item at once.

Should your inspection (or last year's experience) have shown that the tent has developed the supreme fault of the camping world, viz., "spraying," which means that the canvas is letting rain spray through, the material should be treated with soapy water, and then alum. Make up the solutions in two buckets. Actual proportions do not matter, but make both fairly strong.

When all is ready take a large white-wash brush and "paint" well the standing tent with the soapy water. Be quite liberal with the solution and work it right in if the canvas is at all thick. When completed let the tent partially dry.

Now take the alum and again go right over the canvas with the solution. The alternating soap and alum may be repeated several times as long as the solutions are, as it were, "laid on" and there is no suggestion of the one merely rinsing out the other.

A final item of examination should be the bag. Although this is not the tent, it too should be kept in good condition.

Mend any obvious holes in the corners which letting in water may rot adjacent parts of the tent. Also repair any eyelets round the top of the bag that may be breaking, so that the opening can be pulled tightly up.

The little flap of canvas that goes over the tent before the bag mouth is closed is of importance and should be renewed if not in good order.

Practice Packing

Should you have any time after the repairs are made, practice rolling and packing the tent properly, as many a tent has been ruined by such things as forcing pegs down the side of one badly rolled.

If after folding and rolling, the canvas will not go easily into the bag undo and refold, making every crease and bend just a trifle tighter. This will be found to work wonders in reducing the bulk of the canvas.

Plastic Wood Inlay Work

A NEW and highly ornamental use has now been found for plastic wood, which any reader can undertake. Plastic wood, of course, is obtainable quite cheaply from Hobbies in tubes or tins, from 6d. upwards.

How often have you admired the beautiful effects produced by wood inlay but have never attempted the work because of the difficulty of fitting the pieces into the recesses cut for them in the main block of wood.

With plastic wood this difficulty is surmounted. The designs are first cut out as for wood carving and the bottom of the carved part is slightly roughened in order to retain the plastic wood when it is pressed into place. This is done by the figures.

After allowing slightly over 24 hours to harden, the rough edges can be removed by means of fine

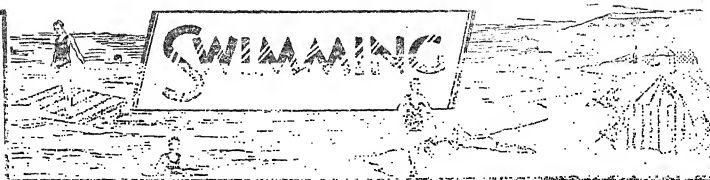
glasspaper. The usual wax finishing and polishing can then be carried out.

When the composition is being applied be generous in the amount used as there is a tendency to shrink when it dries. It is an easy matter to bring down the level of the inlay if it is slightly higher than the surface of the main block, but if the inlay is lower than the main block, a great deal of hard work will be needed to get the whole thing level.

The plastic wood is usually neutral in colour but it can be stained with either oil colours or pigments.

A floral design can thus be completed in its natural colours. Taken a step further some beautiful shaded effects can be produced by using a piece of the composition which has not been evenly stained.

HOW TO KEEP FIT



THERE is no finer exercise for keeping you fit than swimming. It brings into use every part of the body, giving suppleness and strength. Someone has said that the practised swimmer is made of steel springs and rubber. Well what could be better for muscles and limbs—the old notion that muscles should be lumpy and hard as iron has long been discredited.

Actually fitness comes much more from the sound health of internal organs than from any particular outward development, and this is an additional reason why swimming is so good. It does keep the vital organs fit. Kidneys, liver, stomach, all get healthy movement.

The spine is made strong and flexible; the lungs get fuller use than ever before, and so the blood stream is purified and the whole system toned up. No other single form of exercise is so valuable as correct and deep breathing—and swimming, above all else, does make you breathe well.

Cleanliness

The cleanliness is important. Many people exercise in quite thorough fashion, thus causing perspiration—but actually leave all these poisons thrown out by the pores still on the body, to be reabsorbed or to choke up the skin worse than before. The swimmer cannot do that—his pores are cleansed whilst he exercises.

So if you do not swim then begin right away, and if you do then swim still more.

In these days, especially for those in large towns, swimming can be an all year round thing—for heated baths are fast multiplying. And there is so much variety and interest in swimming that if you take your dips every week of the year there is not the least danger of you ever becoming bored.

The sort of "daily dozen" exercises and "jerks" can easily become terribly dull. Many folk start them bravely, and quietly drop them after perhaps a month. And who can blame them? If there is no fun in keeping fit it's hardly worth troubling about.

Land Exercises

But there is interest and fun in swimming.

Maybe you do not swim at all. Well, you've twelve months' happy work ahead making a fair beginning. You can choose your own path—seal stroke, dog paddle, breast-stroke, front crawl, back crawl. Any of these can make a fine learner's stroke.

Have lessons; let some friend help you; or, what is best fun of all, study your chosen stroke in some *swimming* textbook and from actual swimmers, then *try* by yourself.

You can be helped in early stages by some sort of support, motor tube, swimming belt, skimmer, or something similar. And, of course, by land drills and home practice. Master the movements of any stroke lying across a stool at home and your task will be very much easier when you get in the water.

Learn the Breast-Stroke

The breast-stroke is most suitable for learning by land drills, because its parts divide up so readily—*one*, sweep arms round; *two*, draw up arms and legs; *three*, slide arms forward, make the kick; *four*, glide at full stretch. Crawl does not split up so conveniently as that, though its movements can be practised without timing. The seal stroke and dog paddle are not strokes in general use, but simply extremely easy and helpful methods by which the eager novice can swim his first five yards very nearly at the first attempt.

But perhaps your early struggles are almost forgotten. Then your "swimming to keep fit" will be rather different. The same healthy movements, with exposure of body to light and air and sunshine, will belong to your daily dips, but the interest and pleasure will come from improving your ability and tackling new things.

A stroke can always be improved. The efforts to attain good style need never cease. And the more correct your movements the better they will be for you physically.

Take it Smoothly

The clumsy swimmer is all jerks and struggle and strain, but with good style comes free, graceful movement, which allows one's strength to be used to the utmost but without undue strain.

You will not rest satisfied with the mastery of a single stroke either. There are at least a score of different ones awaiting your study. To reach a high standard of proficiency with all of them is not going to be achieved in one year, or two.

Just to list a few of the names makes you realize how much there is in swimming—front crawl, back crawl, breast-stroke, side stroke, overarm, trudgen, overarm back-stroke, underarm back-stroke, short-arm back-stroke, back trudgen, two-arm back-stroke, butterfly stroke, life-saving stroke.

Water Games

There's a programme to start off with! A keep-fit plan that won't give you any slack time for a few seasons!

And all that is only one part of swimming. There are water games of all sorts which you can enjoy, from strenuous water polo, which needs to

be played by giants of fitness, down to tag and follow-the-leader, which the youngest bathers can take part in. Modern bathing pool rafts, and floats, and inflated rubber toys allow plenty of fun too, and encourage that easy confidence and natural watermanship which is the mark of the polished swimmer.

Then there is the sphere of fancy swimming and floating feats, where you need to be both artist and athlete if you would excel. Be sure and develop here as soon as your ability is up to it.

Floating

Can you float horizontally, for example? Swim on your back to begin, then cease your movements, and remain motionless along the surface with body at full stretch, arms beyond the head and legs together. Push the head well back and keep the lungs inflated—and you ought to be able to stay thus in delightful, relaxed ease.

With a few other floaters you can form all sorts of fascinating combined figures and designs on the surface of the water.

Fancy swimming feats are almost past numbering, feats depending on little sculling or leg fluttering actions, with the body in various floating or swimming positions. You can, for instance, scull yourself along head-first or feet-first, lying on the back or on the breast—hands only moving, from the wrists.

Life Saving

Life-saving needs more robust exertion. There are ways to be learned of releasing yourself from every conceivable sort of drowning clutch. And

after that an equal variety of methods of towing—swimming on your back, breast, or side, and pulling or pushing the drowning person along. A friend, of course, serves as the "subject" for your life-saving practice.

Be sure to make yourself proficient in this rescue work as soon as you can. There is nothing in swimming more important, and nothing more interesting as it happens. The practice of it will make you a strong swimmer more quickly than will anything else. Even yet there is one big branch of bathing which has not been mentioned—diving.

Diving

You will certainly want to dive. The right way is to begin with simple plunges and headers as soon as you have begun to swim. But remember that all diving must be in deep water.

So dive. And go on from fixed board to springboard and from springboard to high board. Your nerves will become steadier, your eye more quick, your muscular control more sure, and your grace of movement more marked. Do plain dive, running header, swallow dive, jack-knife, somersault, back dive.

Each will give you new and better control. And when you have mastered all these, you have no more than touched the fringe of diving.

The more you do in the swimming pool, the more ambitious you will become, and the more you will discover there is still to do. But you will enjoy every minute of it, and you will be thoroughly up-to-date, because there won't be any doubt about your general physical fitness.

To fit a winding-type DOOR BELL

NEARLY everybody is replacing their electric (dry battery) door bells with the clockwork type of bell. These novel bells have no upkeep, and are a vast improvement over the "twist the handle" style which work in principle to a bicycle bell.

The big bronze gong, has a "ring" rather like the raucous note of a fire-alarm—none of the puny tinkles which can hardly be heard behind a tram ticket! The mechanism is wound up in a jiffy by the gong (not with a key) and one winding lasts for weeks.

The gong hammer is set in motion by pressure on a button so no one can tell whether it is a clockwork or electric bell. The complete article costs between 3/6 and 4/6, according to the finish.

A Few Difficulties

Of course, you get instruction with the bell for fitting it to the door, but there are a few difficulties you might come up against which are not mentioned. For instance, the hole in the door should be $\frac{3}{16}$ in. or $\frac{1}{2}$ in.

An $\frac{1}{2}$ in. hole rather interferes with the springy socket projecting at the back of the bell case.

When the button plate is screwed centrally over the old or new door hole, insert the button wire to engage with the hole in the back of the button, then cut the wire flush with the door.

The aforementioned socket is inserted over the end of the wire and the casing screwed in place. See that the socket does not touch the sides of the hole in the door.

Narrow Door Stiles

As only two screw holes are provided at the sides of the casing at the back, the central door stile might not be wide enough to take the screws. The only alternative is to drill fresh *upright* holes in the metal.

When doing this, by the way, drill the holes so as not to harm the accurately "set" gong hammer. The screwdriver might slip and buckle it.

Owing to the socket projection at the back, a hole should be drilled in a scrap piece of wood to accept the socket and thus prevent harm and ensure levelness for drilling.

Be sure the screws are driven *in* and tight, because there is a great deal of *in* winding due to a powerful spring.

The EDITOR'S NOTES



THESE warm midsummer days should call for the cooling breeze of an electric fan. On page 244 you have full details how to make one quite easily. Then days like these we have an urge to get into the cool refreshing water and enjoy a swim. On page 259 you will find just how these simple exercises keep you fit. Or if it is really too hot for anything—and some of our friends in the tropics know what that can mean!—then turn your lazy attention to the intriguing medley of outlines in the drawing on page 245. Bearing in mind, of course, that if you make a complete list of them as neat as ever you can it may mean a prize for you.

ON the other hand you may feel awfully energetic and want to set about making a complete compressed air fountain in the garden. Then see page 250, and if you are proposing to go camping soon—or even later—then read through the tent hints on page 257. Altogether a wonderful list of things to do and make! Enough to make everyone happy, I hope.

I WANT to thank all those readers who wrote me about the Model Scale Airplanes, and as I expected the feature sure proves a popular one. I am arranging with the expert who does these things to get along with Supermarines, Fighters, Bombers and Private Planes so you should be able to build a real air fleet in miniature.

A LETTER from a reader on this subject may be interesting in this respect. John Gresty, writing from Betton Moss, Market Drayton says, of course, he thinks it a splendid idea and adds—"When I was at school I made up quite a lot of fighting planes, such as the ones which have been mentioned, and I was more than surprised at the way the schoolboys took such great interest. So I began selling them, and would you believe it, they sold like hot cakes. At this, I kept improving on them and so made them more realistic. Of course the wing span of these planes was very small, something like 4½ ins. to 5 ins. But they look so real all the same. One day I enlarged a design of mine of the

Bristol Bulldog to a wing span of 18 ins. and I am still making more."

THE first Exhibition of Arts and Crafts, arranged by the Burnt Oak Adult Schools and the Watling Association of London, was held recently and proved a great success. There was a wide range of subjects from woodwork to jam making, but all revealed that there are still craftsmen—and craftswomen, of course—who are capable of work in their own particular hobby sphere of which they can justly be proud.

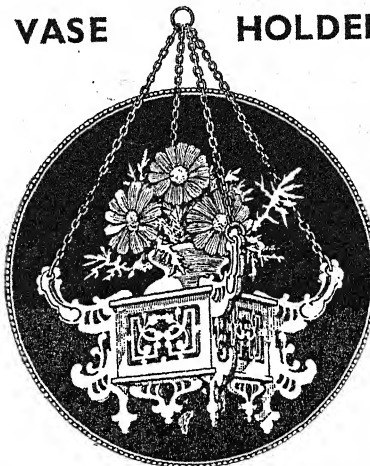
WE are apt nowadays to deplore the passing of great masters in craft and art and to lament over the advent of machinery to replace much that was hand done. But nobody knows better than I do, that there is still extraordinary enthusiasm and a wonderful cleverness in the hands and brains of a large number of people. For one thing materials, tools, and all necessities are more easily attainable than in the "good old days." There is an amazing range of books on any subject you wish to take up. And there are societies and associations whose constant care is to give the beginner practical advice in learning his subject.

ALTOGETHER, with all these facilities it is not surprising that some beautiful work is turned out at play. Every Exhibition to which I go proves it, every photograph I receive shows it conclusively. There is an enjoyment and a restful enthusiasm in having a definite hobby, where you can actually turn out something to admire or to use, or to keep; where you can prove your craftsmanship and spend your spare time pleasantly, and without that restless urge which is a craving of today

YOU would hardly credit the number of letters I receive on this subject of suitable hobbies, and often, tragically enough from cripples who are unable to enjoy all the good things of life as we do. Invariably I am able to help with suggestions which lead, I hope, to new interests and new hobbies.

The Editor

Next Week's Large Design for a VASE HOLDER



MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

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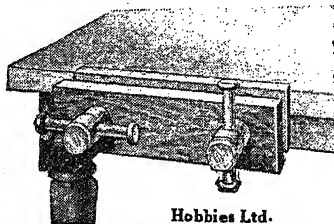
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STAMP COLLECTOR'S CORNER

NOTES ON NEW ISSUES

AGAIN pride of place must be given to the issues of the new reign. This month the most interesting set comes from Fiji, and, as the 2d. and the 6d. values tell us by means of an excellent map, the biggest of these is Vitilevu and Vanualevu. Actually there are about 250 of these islands, but of this number some are only just rocks out of the ocean, and not inhabited.



A Fiji Native Canoe
uriant—sugar, rice, cotton, bread, fruit, bananas.

The set is from the 1d. to the 5/- and as all are truly handsome, it is a pity that we cannot show the lot. The halfpenny, which is illustrated, shows a native sailing canoe.

It might even give some of you an idea as to how to make such a canoe for use on a lake or in calm water. The natives, however, do not confine their trips to the calm water, yet it would be preferable for you to do so as otherwise it might be suggested that our Stamp expert was trying to make you drown yourselves!

The penny value is, in the opinion of the writer, the prettiest stamp of the set, but as this depends so much on the colouring, the beauty would, to a large extent, go in a black and white illustration. So it has not been shown.

The design shows a native village, the huts being in a shade of brown while the frame and the King's portrait are in blue.

The three halfpenny shows another view of the native sailing boat and as it gives a side view, anyone who attempts to make one of these should get this stamp as well as the halfpenny and so see the shape of the sails.

The twopenny and the sixpenny have been mentioned as map stamps. They are good. For one thing they show the lines of latitude and longitude, so that after looking at one of these we should be able to turn up Fiji very quickly on the atlas.

The threepenny shows another view of the canoe. In this case they have also put the arms of the colony on the stamp so the view of the canoe is only a distant one and would not help very much.

The fivepenny view with the penny for beauty. Sugar canes are shown growing, and the colour is in this case scarlet for the frame and blue for the sugar. That is certainly not quite natural, but the effect is happy.

The one shilling is a fresh type of fishing stamp. It shows one of the natives standing up to his waist in water holding a lighted torch in his left hand and a spear ready to strike in his right. The two shillings, two shillings and sixpence, and the five shillings are all rather long distance views, Suva Harbour, a river scene, and a Chief's Hut respectively.

The design of the set for Gambia is that shown. All values are the same, and readers who have a specimen of the later issue of King George V (that is after 1922) will be able to recognise that this design is really part of the design of that stamp. The elephant holds his trunk in the same manner and the tree is situated in the same position in each case.

Swaziland has a set of stamps, they are all of the same design as that illustrated. It is the same as in use during the reign of King George V, except that in this issue the King's portrait is turned

to the right. Previously it has been facing the other way.

The fourth illustration is the Plebiscite issue of Germany. The two figures, represent Germany and Austria, both supporting the same German flag, with the inscription round the stamp which means—one people, one state, one leader. The date of the plebiscite is also shown—



10th April, **The German Plebiscite 1933.**

The rather curious feature about this issue is that there were two stamps, both of the same design, but they were printed in different places. One was in Berlin and in this case there was a watermark, a swastika. But in the case of the stamp which was printed in Vienna, the stamp was without any watermark whatsoever.

Egypt has just given us another set of three. This time for the Leprosy Research Congress. The design is after the style of the stamp which she issued in 1927 for the International Cotton Congress. That is it shows a large plant, not cotton this time but the *hydnocarpus*. It is from this plant that the oil which is used in the treatment of leprosy is used.

Kenya First Day Cover

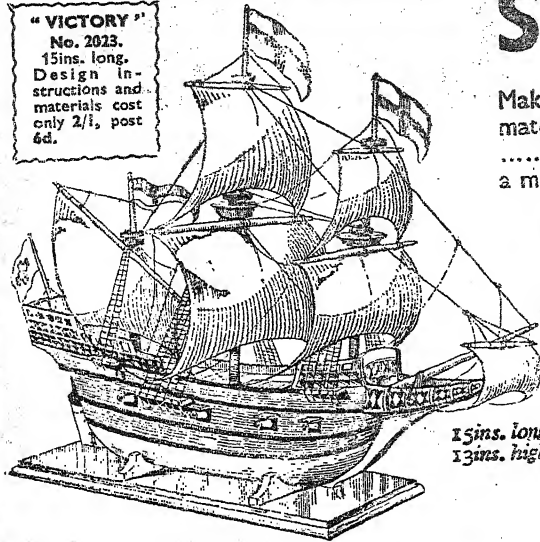
MR. N. S. Mahomedali of Kenya Colony, very kindly sends a specimen of the new 5c stamp for Uganda, Kenya and Tanganyika on a first day cover. The design, a "dhow on Lake Victoria", is the same as for King George V. except that the portrait of King George VI. now appears in the top right-hand corner. The earlier one has already been mentioned in these pages, but we are always pleased to receive notes of this kind from readers in all parts.



New Issues from Gambia and Swaziland

Ship Models

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15ins. long.
Design in-
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materials cost
only 2/1, post
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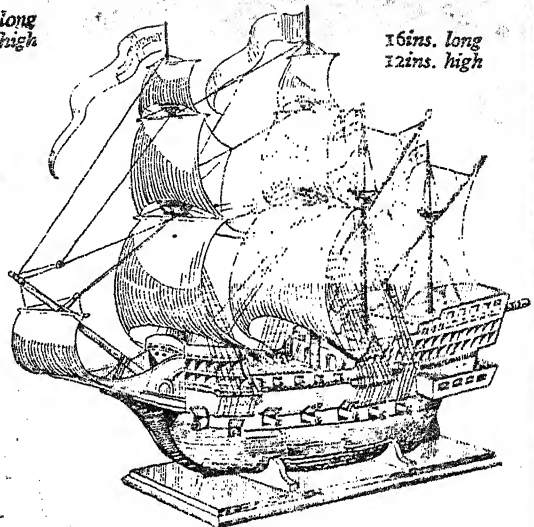


15ins. long
13ins. high

Make a ship model from Hobbies design and materials. It will cost you only a shilling or soplus a little patience.....but you will have a model to be proud of for the rest of your life.

No. 2147 "MAYFLOWER"

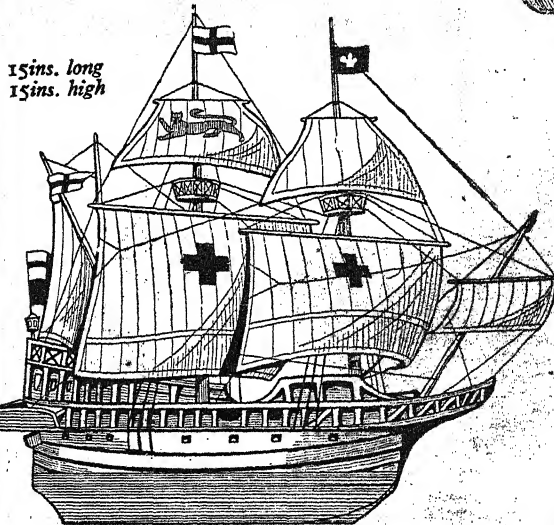
The complete parcel of design, instructions, wood, round rod for masts, waxed paper for sails, wire, special cord, 12 pulleys, eight wood guns, etc. costs 4/1; postage 6d.



16ins. long
12ins. high

No. 2095 "ELIZABETH JONAS"

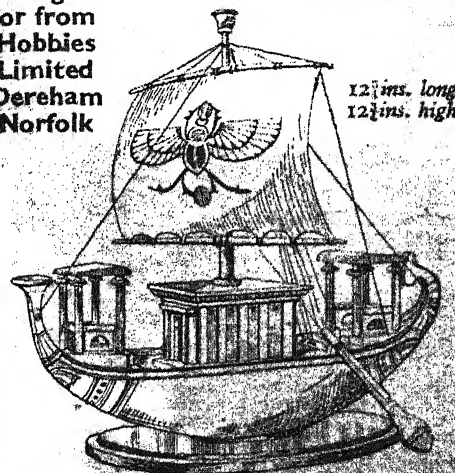
This model must be popular. We have sold thousands of designs and parcels of materials. The design, instructions, wood, turnings, round rod, six pulleys, ten wood guns, waxed paper for sails, etc. cost only 3/7; postage 6d:



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Tins of Enamel, 24d.
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12 1/2 ins. long
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"GOLDEN HIND"

The design and instructions cost 9d. The parcel of planed wood, round rod, etc., costs only 2/-; postage 6d. Send 3/3 and start building it NOW!

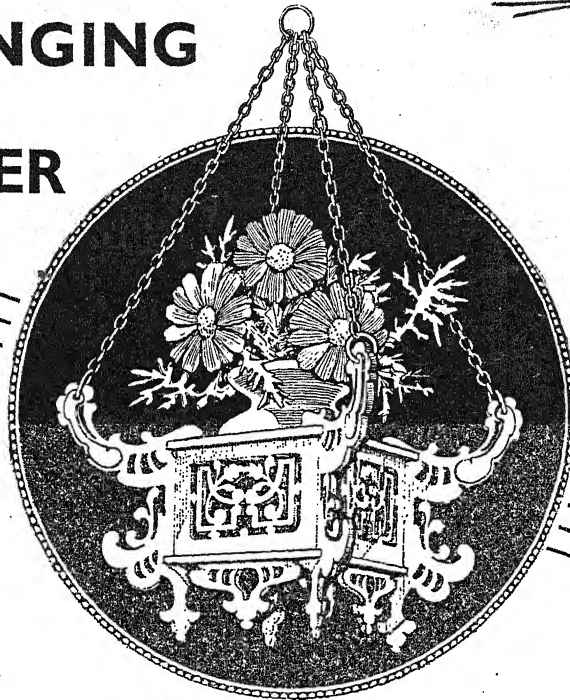
No. 2144 EGYPTIAN GALLEY

Isn't this a delightful model? Design, instructions, wood, round rod, turning, special cord, 12 brass eyes and waxed paper for sail 3/2; postage 6d.

Hobbies

WEEKLY

**A HANGING
VASE
HOLDER**



**FREE
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CARPENTRY
CROSS WORD
MODEL AIRCRAFT**

June 18th. 1938

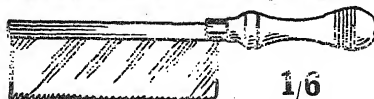
2^D

Vol. 86. No. 2226

**THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL**

TWO USEFUL TOOLS FOR THE HANDYMAN

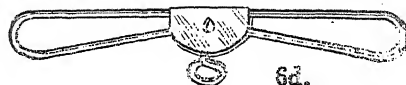
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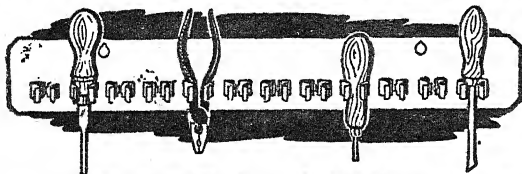
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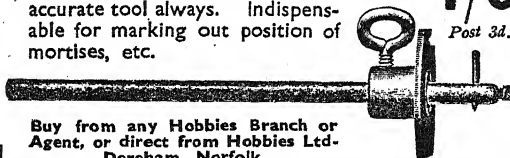
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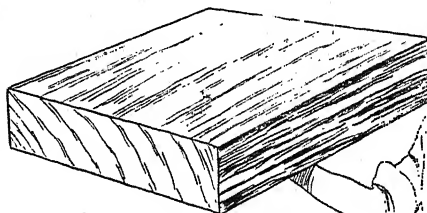
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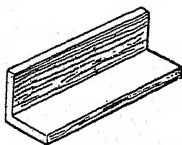
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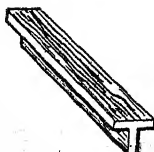


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3ft. Lengths



"T" SECTION

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This is sound quality Balsa Wood. It is amazingly easy to work with knife or saw and is used by thousands of model aeroplane builders. Use it, too, for model boat hulls, toys, kiddies' building bricks, and a host of other things. Balsa Wood is the wood without a substitute.

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2 1/2 in. x 1/2 in. ...	2d.	1/8
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CARBON DIOXIDE and CHLORINE

HOME CHEMISTRY



HERE are some further interesting experiments with various gases which the home chemist can undertake.

Carbon dioxide is a heavy, colourless, odourless gas which though not actually poisonous, will not support life or combustion. This gas is produced by the act of respiration and when organic substances burn.

For a simple experiment, put a few small pieces of marble into a conical flask and fit the flask with a thistle funnel and delivery tube as shown in Fig. 1. Pour some dilute hydrochloric acid down the funnel so that its lower end is covered. Carbon dioxide will be produced. The gas may be collected by means of a pneumatic trough as described in a previous article.

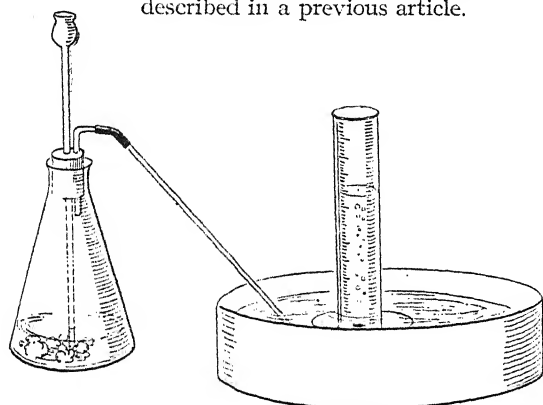


Fig. 1—Apparatus for carbon dioxide experiment

For the next experiment, into a jar of carbon dioxide pour a little lime water. Cover the jar and shake. The liquid will become milky owing to formation of calcium carbonate or chalk. This reaction is used as a test for carbon dioxide.

Non Combustible

Here is another simple experiment. Pour some water into a jar of the gas and shake well. By this means you will have prepared a dilute solution of carbonic acid. Taste a little of the liquid.

You will notice the flavour of weak soda water, which is produced by forcing the gas into water at a high pressure. To the remainder of the solution add a few drops of blue litmus solution. The indicator will turn red, showing that the gas is acidic.

Now let us go a little further and undertake another. Plunge a lighted taper into a jar of carbon dioxide. The taper will immediately be extinguished, thus indicating that the gas will not support combustion.

Repeat the above experiment with a piece of

burning magnesium. The metal will continue to burn, forming a white powder and a black substance. The white powder is a compound of magnesium and oxygen. It is known as magnesia or magnesium oxide. The black substance is carbon.

We have now proved that carbon dioxide is a compound of carbon and oxygen and can follow up with another experiment.

More Interesting Experiments

Blow through a length of glass tubing into a test tube containing lime water. The liquid will soon become turbid, showing that carbon dioxide is formed in the lungs.

For yet another experiment, fit the flask in Fig. 1 with a right-angled delivery tube and pass the gas into a solution of lime water as shown in Fig. 2. The liquid will at first become milky as was to be expected.

After a time, however, the liquid will become clear again. This is caused by the action of the gas forming another compound, known as calcium bicarbonate.

If the solution is boiled, the bicarbonate will be decomposed into insoluble calcium carbonate and carbon dioxide, which causes the liquid to become turbid again.

Two more experiments can be carried out as

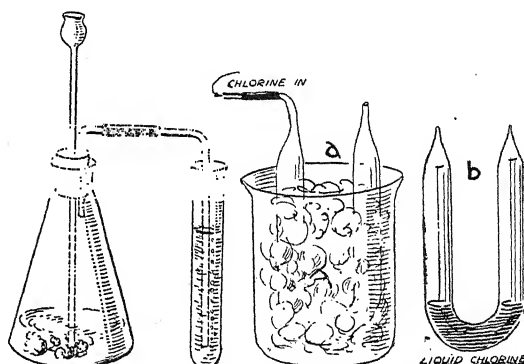


Fig. 2—A carbon dioxide experiment

Fig. 4—Preparation of liquid chlorine

follows. Pass carbon dioxide for some time into a large bowl. The gas will remain in the bowl because of its heaviness or high density. Now blow a few soap bubbles and allow them to fall into the bowl.

The bubbles will bounce up and down and finally come to rest with no visible means of support near the top of the bowl.

To obtain carbon dioxide from yeast make a solution of sugar and add to it a paste composed of

a little yeast and some water. Pour the liquid into an apparatus similar to that shown in Fig. 2, omitting the thistle funnel. Let the delivery tube lead into lime water as before and allow the whole apparatus to stand in a warm place for a day or two.

You will notice that the lime water becomes turbid, showing that carbon dioxide is given off. Smell the liquid in the flask and notice characteristic colour of alcohol.

When carbon dioxide is cooled under pressure it becomes liquid. If the pressure is suddenly released, flakes of a white solid are formed. This substance is known as carbon dioxide snow and is manufactured commercially. It is used as a refrigerating material.

You can obtain a supply of this material from an ice cream merchant. If it is

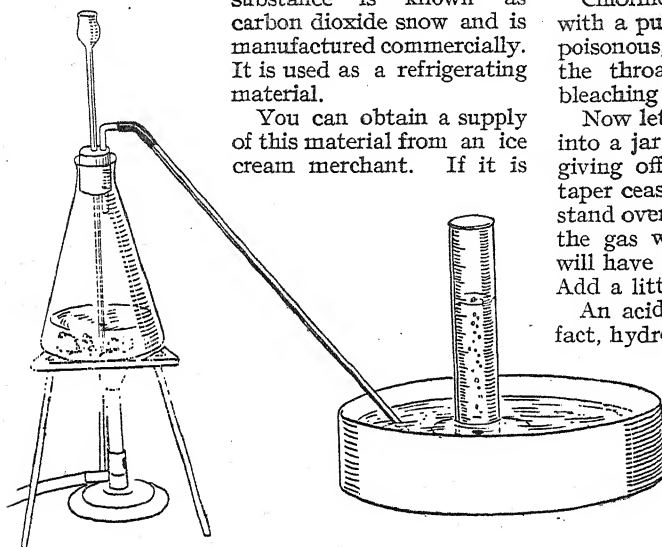


Fig. 3—How to experiment with Chlorine

kept well wrapped up, it will keep for days without evaporating.

Drop a piece of solid carbon dioxide into a vessel of water. The solid will sink to the bottom of the vessel and evaporate rapidly, giving off carbon dioxide gas and forming small fillets of ice.

Press a spoon against a piece of the substance. The metal will immediately set up a piercing screech. This is due to the intermittent evaporation caused by the metal.

Here is an experiment on Chlorine. Heat in a test tube a little concentrated hydrochloric acid and some potassium chlorate. A green gas with a choking odour will be formed. This is chlorine.

The gas may also be prepared by using manganese dioxide or red lead in place of the potassium chlorate.

Another experiment can be carried out also in the following manner. Fit up the apparatus shown in Fig. 3 and place a little manganese dioxide in the flask. Pour in sufficient concentrated hydrochloric acid to cover the bottom of the thistle funnel.

Heat the flask gently and collect the gas over water by means of a pneumatic trough. Although chlorine is soluble in water, it will not dissolve enough to cause any serious loss of the gas.

Chlorine is a very heavy greenish yellow gas with a pungent, irritating odour. It is extremely poisonous, attacking the mucous membranes of the throat and lungs. Chlorine is a powerful bleaching agent in the presence of moisture.

Now let us try another. Plunge a lighted taper into a jar of the gas. The taper will burn feebly, giving off dense volumes of smoke. When the taper ceases to burn, cover the jar and allow it to stand overnight. The characteristic green colour of the gas will have disappeared, while the smoke will have settled out as a black deposit of carbon. Add a little water and shake.

An acid liquid will be produced and this is, in fact, hydrochloric acid formed by the combination of the hydrogen in the taper with chlorine.

Dip a flower into water and place it in a jar of chlorine. In a short time the colour of the flower will have completely disappeared. Try to bleach pieces of coloured cloth in the same way.

Here is an interesting experiment to obtain Chlorine from bleaching powder. Use the apparatus shown in Fig. 1. Charge the flask with a small quantity of bleaching powder and add hydrochloric acid. Chlorine will be given off and may be collected over water in the usual way.

Liquid Chlorine

For Liquid Chlorine prepare chlorine as described above and pass the gas through a U tube cooled in carbon dioxide snow as illustrated in Fig. 4a. The gas will change to a green liquid. If the walls of the tube are strong enough, the liquid may be preserved by sealing off the projecting ends of the tube. You will then obtain a specimen tube similar to that shown in Fig. 4b.

Stud Box—(Continued from opposite page)

Even up the sides first, then the top, the bow-shaped front coming last of all. Remove as little as possible in fitting. The curve of the drawer front should, if inaccurate, be papered to suit the contour of the box top.

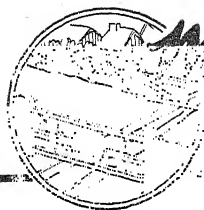
Owing to the end grains showing at the drawer front, it is a good idea to "rub in" with fine glasspaper a coating of candle grease. The enamel will take well to such a prepared surface, and indeed, all edges should be treated in this manner.

Just rub the unmelted tallow on, then glasspaper away, using a fresh piece of glasspaper when

a piece is "clogged" too much with grease.

Before attaching the silhouette permanently in place, enamel it white or jade green. While the second application is drying, give the rest of the work two thin coats of jade green (for a white silhouette) or chocolate (for a green figure).

The inside of the drawer could be lined with a fancy paper or painted bright red. A piece of baize should be adhered to the underside of the base. In fixing the statuette in place, of course, the tenons and mortises must be cleaned with a penknife and a little glue used.



LOCOMOTIVE INSPECTION PIT MODEL

IN Hobbies Weekly for August 21st of last year, we described how model dock-side lines (i.e., track with the road coming up to the rail heads as at level crossings), could be made in a simple and most satisfactory way, from sheets of wood. Now we show you how this principle can be employed to construct a very effective locomotive inspection pit.

These inspection pits are not often found on model railways, but nevertheless they make very realistic additions to miniature engine roads and quite repay the small effort necessary in their making.

The Actual Pit

Inspection pits are, as will generally be known, cavities between the rails to enable fitters, etc., to get right under locomotives for carrying out repairs, and also for inspection purposes, as the name indicates.

There is rather more in a full-sized pit however, than merely being a hole between the rails, for down the entire length of the excavation cross

The first thing to do is to obtain a piece of not too hard wood, 1ft. long by 8ins. wide and $\frac{3}{4}$ in. thick, and upon it mark from end to end two lines $3\frac{3}{4}$ ins. from each side (A. and B.) These now should be $1\frac{1}{4}$ in. apart and are the inner edge of the rails.

The Line Sides

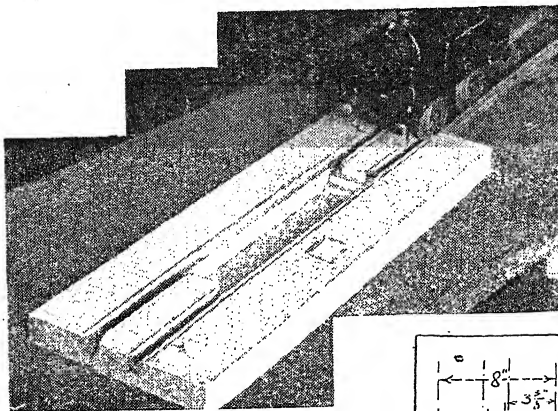
Next scribe two more lines, $3/16$ in. on the inside of the two lines already drawn. These will be $\frac{1}{8}$ in. apart and are the inner edge of the flangeways. Finally 3 ins. from either end draw the lines C and D.

Next with a sharp chisel remove the section (a b c d) (right through) seeing that the edges of the rectangle so left, are perfectly perpendicular. It is best to remove some of the wood roughly first of all then finish the sides with great care.

The Channels

Taking a sharp penknife and steel edge, now remove the small sections of wood as shown by the shaded strips to a depth of $\frac{1}{4}$ in., just as you did for the dock-side lines. Make these channels as smooth as possible, then get a final surface by wrapping a piece of glass-paper round a ruler and placing in the channels rub vigorously backward and forward. Carefully round off the ends of the channels as shown (E).

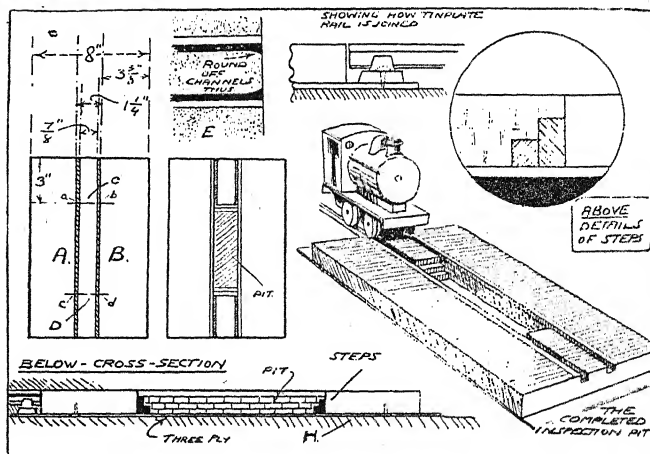
Take a length of three-ply wood 1ft. $2\frac{1}{2}$ in. by 8ins., and secure to the underside with short screws as (H). This is to allow the joining of tinplate rails to the pit section and also gives a bottom to the pit.



A photograph of the completed pit with (right) details of construction

sleepers are impossible, and the rails have to be specially anchored. Also as much of the strength of the track has been removed, the sides of pits have to be built particularly strong to bear the concentrated weight of locomotives. Men usually enter by steps at either ends.

From a model engineer's point of view however, these considerations do not enter into the construction at all, thus simplifying matters greatly.



SMALL SCALE MODELS

THE highly finished small models which can be seen in shop windows are very nice, but they would not give the satisfaction of a home built model. Modelling aircraft is a straightforward business, the only essentials being patience and sharp tools.

Models of the big machines with their multitude of spars, struts and wires look very businesslike, but they are not simple to build on a small scale. Small scale in this sense is used to denote models of $\frac{1}{4}$ in. or $\frac{1}{2}$ in. to 1 foot. If it is intended to make many models it will be found that a collection of models of $\frac{1}{4}$ in. scale will require a bit of space.

A 5in. Wing Span

The Hawker Fury fighting plane is perhaps the most suitable to start on. A model of this machine will have a 5 in. wing span. The fuselage is cut from a piece of stripwood $3\frac{1}{2}$ in. by $\frac{3}{4}$ in. by $\frac{1}{4}$ in.

The side elevation is marked on both sides, taking care to get them square with one another. The fuselage is then cut out to this shape. The plan is then marked on to the block and the surplus cut away.

The fuselage is then rounded until it is circular at the nose and having the correct shape towards the tail. A groove $\frac{1}{2}$ in. wide and $\frac{1}{4}$ in. deep is cut out in the bottom of the fuselage, the front edge of this groove being $1\frac{1}{2}$ in. from the nose.

The cockpit is then marked on the fuselage and carved out carefully with a sharp chisel or gouge. The interior of the cockpit can be cut out to the shape of a seat or hollowed right out and a small seat fitted according to individual taste.

Main Planes

The main planes are next cut out from 1 in. by $\frac{1}{4}$ in. stock, and must be cambered top and bottom. It will be advisable when cambering them to remove a little from the thickness, as the model will look clumsy if they are too heavy.

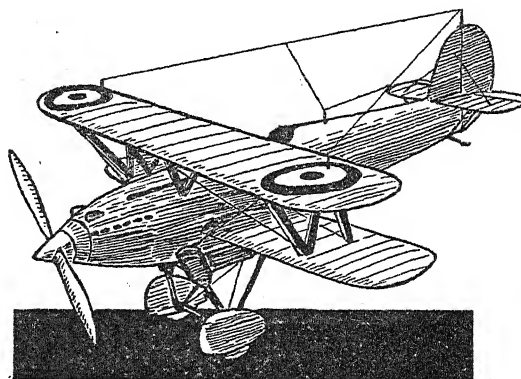
To make the dihedral on the wings, mark carefully where this angle starts and score partly through the wing. Bend the wing to the required angle and rub liquid glue into the score. The shape of the ailerons is marked onto the wings and the outline scored with a knife or bradawl holes

for the interplane struts and centre section struts are bored with a fine bradawl or archimedeal drill.

When the main planes are finished the tail planes and rudder can be traced and cut out in a similar manner. These parts may now be put aside and the interplane struts can be made.

They may be made of fine wire bent to shape or they can be made of thin sticks of hardwood. The wire struts are the neatest job however.

The undercarriage can be made of wood or wire

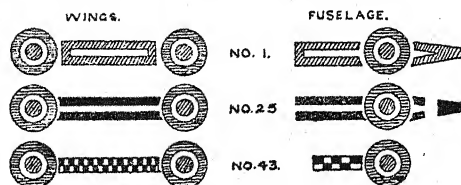


The Hawker Fury Fighter, patterns of which are printed on page 283

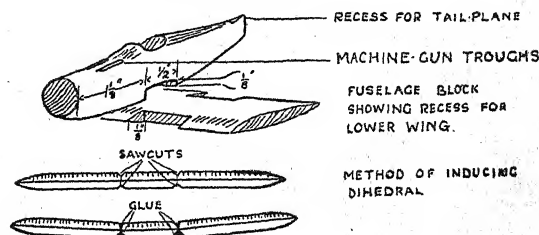
in the same way as the struts. If they are of wire the shock absorbers on the front leg can be cut from a small piece of wood, and the wire threaded through a hole in it. Or they can be made by bending a layer or two of paper round the wire and sticking it to the wire.

The wheel spats are made of two pieces of hardwood trimmed to shape. A groove can be cut in them with a coarse saw and then the groove filled in front and back with plastic wood or plasticine.

The wheels are cut from a piece of thick sheet lead and the tyres are marked with a pair of dividers. The centre portion of the wheel can then be recessed with a knife. This will be found to be quite satisfactory as only a small part of the wheel shows out of the spat.

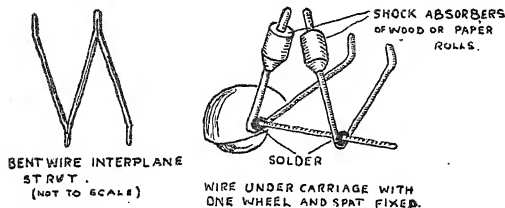


MARKINGS OF FIGHTER SQUADRONS USING "FURIES"



The assembly of the model is carried out in the following order. The lower wing is fitted into the groove and glued in position. The piece below the wing that is cut out may be made good with plastic wood, moulded to shape. The interplane struts are fitted into their holes and adjusted for symmetry.

The top plane is then fitted into place. If everything is correct-stagger, dihedral and symmetry, remove the wing and struts carefully. Put



a touch of glue on each end of the struts and reassemble. When the wings are set in place the undercarriage and the tail surfaces are fixed in place.

When all this is set, the axle is threaded through the undercarriage, a wheel is put in each spat and the whole threaded onto the axle. The spat is glued to the undercarriage.

Wheels and Wire

Care must be taken that no glue gets inside the spat to stick the wheel to it. A spot of glue is used to fill up the hole through which the outer end of the axle passes. This will secure the axle and keep it from moving end ways.

The tail bracing wires may be fixed in place with a spot of glue and the tail skid fixed.

The main constructional work is now finished and the painting can be commenced. The Hawker Furies are mainly silver with polished aluminium cowlings and spats. The interplane struts are stainless steel and the propeller is grey.

The model can be given a coat of aluminium paint, which is rubbed down carefully when dry. A second coat is applied which is brushed the opposite way to the first. When this is dry a third coat is applied in the same direction as the first.

Markings

The R.A.F. cockades are carried on the surfaces of the wings and on the sides of the fuselage. The number of the machine is painted on the sides of the fuselage and on the lower surface of the bottom wing.

This may be considered sufficient decoration for the model, but for those who care to go further the squadron markings of those squadrons equipped with Furies, are given. These markings are carried between the cockades on the top wing and on the sides of the fuselage.

On the sides of the fuselage the markings converge between the cockade and the leading edge of the tail plane.

The Propeller

Finally the propeller is either carved from hardwood or from sheet lead, painted and then fixed to the nose with a fine pin. Bracing wires of fine florists wire may be fixed in place with spots of glue or alternatively they may be of fine thread passed through small holes near the ends of the struts.

These holes can be made in the wings near the struts, the wire is threaded through and secured with a spot of gum. When the gum is dry, the end of the thread is cut off close to the surface. A spot of paint is then put on the place with a pointed brush, when the hole will not show.

The aerial can be of fine wire and the pillars can be made of pins pushed into the wing and tail.

If carefully made this model should give the builder great satisfaction and will certainly make him want to build more elaborate machines.

A Picture of Your Voice!

THIS may sound ridiculous at first, but nevertheless it is possible to set up a little apparatus and conduct a very interesting experiment which will result in giving you some idea as to what your voice looks like.

First of all you take a round tin—an empty toffee tin will do quite well—then make a circular hole in the side of it. Into this, fit about a foot of rubber tubing, and insert a small glass funnel at the free end of it. Be careful to see that your joints are tight and well made.

On Parchment

Over the top of the tin, fix a circular piece of parchment paper, such as is used for covering jam jars, and fit this on in the same way as is done with jam, that is, wet it at first, then allow to dry, when, of course, it will be as tight as a drum. When quite dry, sprinkle some fine dry silver sand on it.

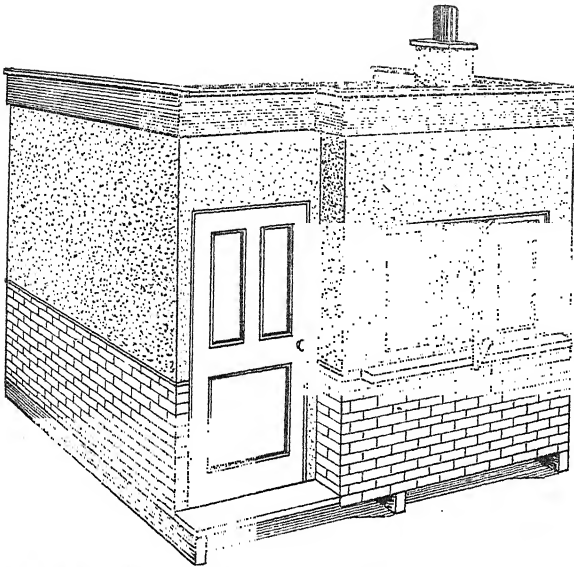
Your apparatus is now complete, and you will use it in the following way. Place the funnel to your lips, just as if you were speaking into the mouthpiece of a telephone, and sound one good full note into it.

The Moving Picture

You will find that the sand on the top of the tin will begin to jump about, and assume a symmetrical pattern. This is the picture of your voice. As you leave off, you will see that the sand is likely to disperse again, and thus spoil the pattern created. To prevent this, sound the note again, withdrawing your lips gradually, so that the sound dies away slowly.

Before anyone else uses it, shake the tin and spread more sand, and you will find a different picture produced each time.

A GARDEN DOLL'S HOUSE



HERE is an article which would delight the heart of any youngster, a real miniature house, large enough to run in and out of, and to provide hours of amusement. It is no shoddy affair but well constructed, something to be proud of when made.

For the floor use tongued and grooved boards. Cut into as many 6ft. lengths as possible, and work the odd pieces in between the full length ones.

Nail to three joists of 2in. by 4in. stuff and see all is square. Turn the floor over and creosote the underside and joists as a protection against damp.

Figs. 1 and 2 show front and side elevations of the house, drawn to the scale provided. All dimensions can be pricked off on the scale. Fig. 3 shows a perspective view of the framework before it is covered, and will help to make the work of construction clear if carefully studied.

Make the back and front frames first of 1in. by 2in. wood, halved at the joints and nailed and glued together. Take care the frames are quite square. The front frame only 4ft. wide.

Window Opening

The cross rails and verticals (1in. sq. stuff the latter), are fixed in to form the window opening, and the short piece above, H, fitted in to take the weight of the roof at this point. Fix these frames to the floor with nails. The side frames are made up to be 1in.

shorter in height than the back and front ones, the left side one being also 6ins. less in length.

These also are nailed to the floor, and the front and back frames nailed to them. At J is a length of 7in. wide board, nailed to the front frame and at true right-angles to it. At K is a length of 2in. sq. timber, nailed to J and also skew nailed to the floor. This piece is the same height as the front frame, so it will extend above J by just 1in.

See it is level with the left side frame. Now join both by two cross rails of 2in. sq. stuff, as seen in Fig. 3, and to make the door opening, the same thickness both sides, nail to the left side frame a 1in. thick piece of wood, reaching from the floor to the lower cross rail.

Fig. 4 shows a section through the door opening across A—B, the jamb shown being a planed slip to be fixed after the door is fitted, for it to butt against, and can be dealt with later.

The Rafters

The rafters are lengths of 1in. by 4in. wood, planed down at the top edge to 3ins. at the rear to form a gentle slope. Cut to overhang the rear by 1in., and at the rear end saw out a 1in. by 2in. notch, and at the front a 1in. by 1in. notch, to fit over the front and back frames as in Fig. 5, a section across the roof at C—D.

The left side rafter has a piece 6ins. long sawn off the front to make it level with the frame. Fix all with nails where shown, the first and second rafters, counting from the left, being also nailed to the top cross bar between side and K.

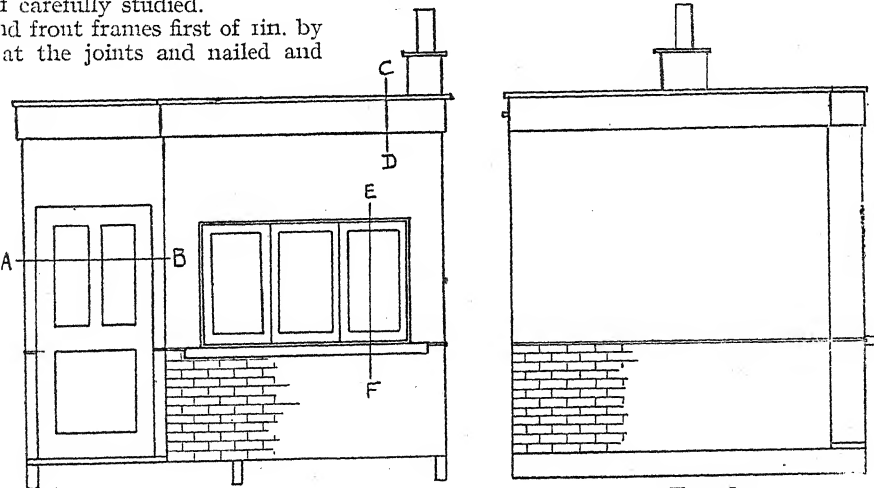
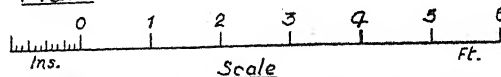


FIG. 1

FIG. 2



Front and side elevations with scale for marking out the parts

The chimney stack is a box of wood 12 ins. high, and having one side cut away to fit over the rafter as seen in Fig. 6, to which it is firmly screwed.

The top of the chimney stack is cut large enough to overlap it all round by 1 in., and in the centre is screwed from beneath the chimney pot.

This can be turned or planed up from a 8 in. length of 3 in. sq. wood.

Nail a fillet to the inner face of the chimney stack, level with the top of the rafters, and fix the

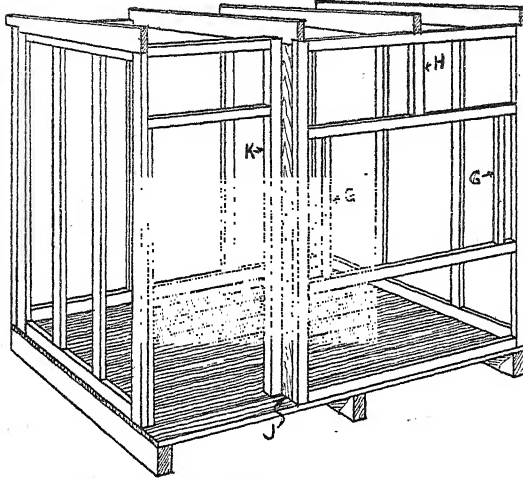


Fig. 3—Constructional details of framework

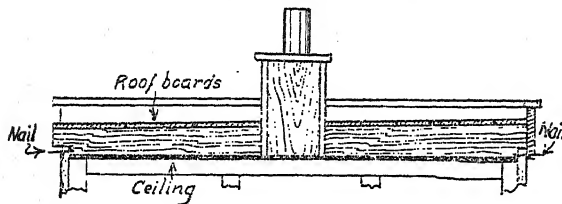


Fig. 5—A sectional view of the roof and chimney

roof boards across cutting them round the stack and nailing the cut ends to the fillet.

The parapet is composed of pieces of 6 in. wide board, nailed round the sides and front, but omitted from the back. Nail to the rafters at the sides of the house, and at the front to the frames and ends of the rafters. On the parapet nail a coping strip of 1 in. by 2 in. stuff all round to finish off.

Before covering the roof boards get some 6 in. wide strips of zinc, bend at right-angles, and nail in the angles where the chimney stack joins the roof, as in Fig. 7. How to fix this at front and side is clearly shown. Leave the back for the moment.

Roof Covering

For the roof covering use Rubberoid or good quality roofing felt. Lay over and bend up at the parapet, nailing it to the latter just under the coping. Cut out to fit tightly round the stack and there tack, the tacks going through the zinc.

At the rear of the chimney stack nail a strip of zinc as for the side only, the bent over-part will lie

flat on the roofing felt instead of underneath it. A good close joint all round here will stop water creeping between and making its way through the ceiling below. Roof battens of $\frac{1}{2}$ in. by 1 in. wood are nailed to the sides and down the middle of the covered roof to keep the felt down, and it is, of course, nailed to the back edge of the roof boards.

Wall Covering

Now cover the walls, outside and in, with asbestos or composite boarding, trimming the cut edges neatly round the window opening.

The boarding butts up against the lower edges of the parapet and covers the flooring at the bottom. It is nailed to the framing, and the meeting edges of the boards should be arranged to come over a vertical so that both edges can be nailed to it and will butt closely together.

At the back the boarding extends between the rafters to cover the space which would otherwise be left between the rear frame and the roof boards, as seen in Fig. 6.

Similar boarding can be nailed to the underside of the rafters for a ceiling.

Pieces of fillet will have to be nailed each side in addition for the ends of the ceiling boards to be fastened to. This will be obvious when the job is being done.

The Door

The door can be framed up with mortise and tenon joints in the usual way if a realistic job is desired. Beading can be nailed round the panel openings for rebates. Glass could be fitted in the upper panels, and three-ply in the lower.

A more simple way of making the door is to nail

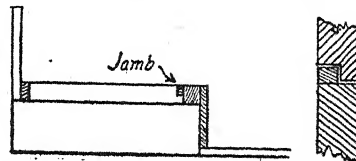


Fig. 4—Section of doorway opening



Fig. 9—Joint of draught preventer

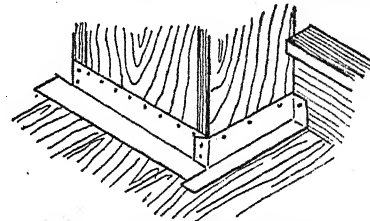


Fig. 7—Chimney stack joins roof

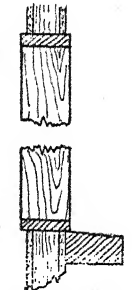


Fig. 8—Section of window and sill

a covering of composite boarding to a framed-up foundation, and imitate the panelling with small moulding, glued and pinned on.

Hinge the door with 2 in. iron butt hinges, and fit a suitable lock and handle. The door jamb, already mentioned, is nailed to K just behind the door and at the top.

Round the window opening, nail a lining strip of $\frac{1}{2}$ in. by 2 in. wood, as in Fig. 8, which is a section through the opening, down E—F. The sill is a

length of $1\frac{1}{2}$ in. by $2\frac{1}{2}$ in. stuff, planed down to a slight bevel on its upper surface to throw off the rain, and screwed below the window frame.

The sash frames, three of which are required, are made up of $1\frac{1}{2}$ in. by $1\frac{1}{2}$ in. stuff, two being fixed and the centre one hinged to open. Nail beading round to form a rebate and fix glass with slips of wood behind.

Of course, the glass can be puttied in, but there is more trouble afterwards when a breakage occurs and replacement becomes necessary. Nail the



Fig. 6—Back covering boards

fixed frames in the centre of lining slip so as to leave $\frac{1}{2}$ in. of slip back and front of the sash frames.

The front edge of the hinged frame should be rebated, and a draught excluding strip nailed to the edge of the frame opposite, as in Fig. 9.

Interior Decorations

The inside of the house (except the ceiling, which should be painted white) can be painted or distempered in a pleasing shade, or covered with wallpaper, as preferred. A pretty paper with a small pattern would be very suitable. Items like skirting boards, chimney breast and mantelpiece can be fitted at discretion.

Outside a planed strip of wood should be nailed

all round, level with the window, and below this the walls painted brick red. Outline the bricks in white, doing the job with a small brush and straight edged slip of wood. The best brush to use is a proper lining flitch.

The size of the bricks should be in proportion to the house, say, $1\frac{1}{2}$ ins. by $4\frac{1}{2}$ ins.

Above the brickwork, the walls are painted cream, and the parapet stone coloured. The chimney pot is, of course, painted brick red.

The door and windows would look best if painted in two colours, the door framing and window surround being, say, medium green and the panels and sash frames light green.

Fit a casement fastener and stay to the window, and add, if a further touch of realism is desired, a very small knocker and letter box to the door.

The cutting list shows approximate quantities of timber required. Items not detailed (except the door), can mostly be made up of waste, as ample for loss in cutting is allowed for.

MATERIALS REQUIRED

Joists (3)	2 ins. by 4 ins. deal.	5 ft. long.
Flooring ..	1 in. by 5 ins. planed tongued grooved boards.	100 ft.
Frames ..	1 in. by 2 ins.	150 ft.
Post K and cross rails	2 ins. by 2 ins.	9 ft.
Board J ..	1 in. by 7 ins.	4 ft. 5 ins.
Rafters (4)	1 in. by 4 ins.	5 ft. 1 in.
Roof boards	3 in. by 7 ins.	60 ft.
Parapet ..	3 in. by 6 ins.	20 ft.
Coping ..	1 in. by 2 ins.	20 ft.
Asbestos or Composite boards	6 ft. by 3 ft.	12 sheets.
Window lining slips ..	1 in. by 2 ins.	10 ft.
Window sill ..	1 1/2 ins. by 2 1/2 ins.	3 ft. 6 ins.
Sash frames	1 in. by 1 1/2 ins.	20 ft.
Beading ..	1 in. by 1/2 in. or 3/4 in.	50 ft.



Closing Date :
June 30th

The June PHOTOGRAPHIC COMPETITION

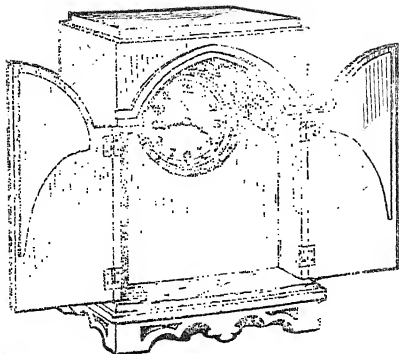
Sports—Landscapes—Garden Scenes

Everyone who has a camera, stands a chance to win a cash prize in our Monthly Competitions. Two sections—Senior and Junior. The available subjects under the above heading are widespread and gives everyone a chance to enter at least one print. There is no entrance fee, but good cash prizes are offered.

RULES AND PRIZES

In the Open Section a 1st Prize of a Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed: Amateur Photographic Competition,

Hobbies Weekly, Dereham, Norfolk, and must arrive not later than June 30th. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.



Full size
patterns of
fretted parts on
page 287

THE neat little clock case we intend talking about here, and of which we show two views, should appeal to the great majority of our fretworkers. There is something quite unusual about this case, for it is fitted with two doors so that at certain times it may be closed up to form an attractive centre piece for the mantel or side-board. Such a clock as this too, would be highly suitable for a bedroom where, during the day the doors may be kept closed, but at night they may be opened to give full view inside.

The wood to be used should certainly be oak, and the finish to be put upon it, either stain and varnish or stain with a rubbing of wax polish.

The construction of the case is very simple

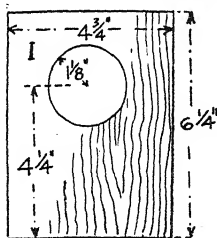
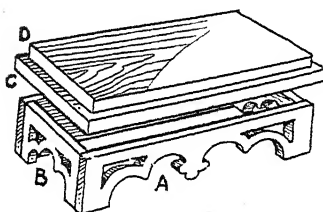


Fig. 1—The base construction

Fig. 3—The partition

indeed, and calls for no particular comment beyond that the straight fretcutting needs to be carefully and not too hurriedly done.

The open-work upon the doors, and the overlays also should be very neatly cut and a fine fretsaw used for all this work. It will please the worker to find that all the fretted work required is given full size on page 287 of this issue, thereby reducing the work of redrawing to a minimum.

All that will be necessary therefore to do, will

CUTTING LIST

- A—2 pieces 5 1/2 ins. by 1 in. by 1/4 in.
- B—2 pieces 2 1/2 ins. by 1 in. by 1/4 in.
- C—1 piece 6 ins. by 3 ins. by 1/4 in.
- D—1 piece 5 1/2 ins. by 2 1/2 ins. by 1/4 in.
- E—2 pieces 6 1/2 ins. by 5 1/2 ins. by 1/4 in.
- F—2 pieces 6 1/2 ins. by 1 1/2 ins. by 1/4 in.
- G—1 piece 6 1/2 ins. by 4 1/2 ins. by 1/4 in.
- H—1 piece 4 1/2 ins. by 2 1/2 ins. by 1/4 in.
- I—1 piece 6 1/2 ins. by 4 1/2 ins. by 1/4 in.
- J and K—1 piece 7 ins. by 1 1/2 ins. by 1/4 in. overlays.
- 2 knobs No. 80.
- 2 pairs 1 in. hinges.
- Clock—Hobbies No. 5502 or No. 5506.

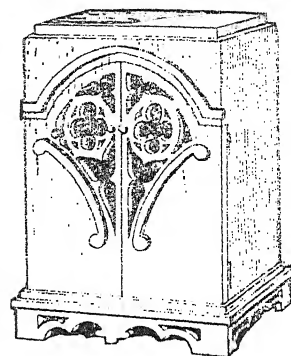
A GOTHIC CLOCK CASE

be to stick down the patterns given on page 287, direct to the pieces of wood and cut out in the usual way.

The base of the clock-case is shown in Fig. 1, and the manner of placing the fretted sections is clearly indicated with also the two upper pieces, these latter must be carefully glued up to get equal margins all round.

Piece C will be glued and pinned on to pieces A and B, while the piece D will form the floor of the case and will thus be fixed to this and afterwards glued and screwed through to piece C.

The case is shown partly made up in Fig. 2, with the doors not yet fixed, and the middle partition I cut away in section to clearly show the back of the case.



The Casing

The proper sizes of all the pieces to form the case are given in the complete cutting list at the end of this article, so that it should be very simple for the worker to set out each piece, cut it, and then assemble them according to the diagram. Piece G it will be observed, fits down inside the back and sides and the front E, while piece H is simply glued on centrally on piece G.

The partition I is given in Fig. 3 with all leading dimensions shown. When this piece has been cut, and the circular opening for the clock also cut, it

should be laid upon the back E and the position of the circle marked round in pencil.

Thus, when the case is afterwards assembled, the openings come exactly opposite each other assuring a perfect fit when the clock is inserted.

The front of the case is shown full size, as mentioned previously, and in cutting this, note

(Continued at foot of page 280)

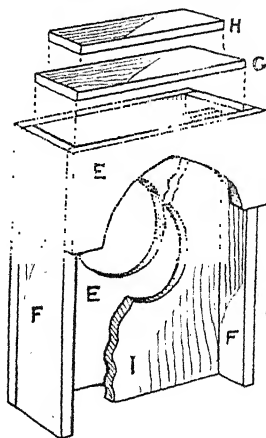
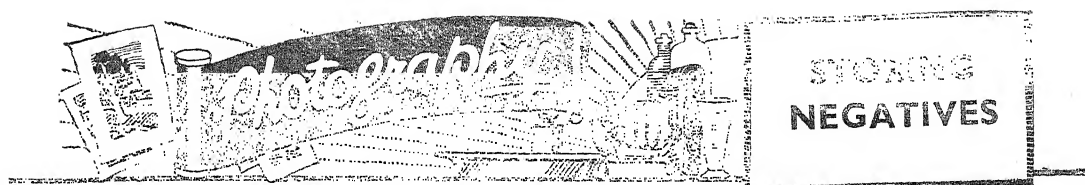


Fig. 2—Details of the casing



MOST readers of Hobbies have at some time been keen on that other interesting and instructive hobby, the collecting of foreign stamps and know how very necessary it is to keep them stored away in their proper pages in the stamp album. So it is with amateur photography. If films are allowed to accumulate in pockets, drawers, wallets or any other odd place, they become a regular nuisance and it invariably happens that if you require a certain negative it is almost impossible to find it and the search is abandoned unless you have the good fortune to hit on the spot where it has been hidden.

Note the Contents

It may be that many of you so far have not got many films and have perhaps got them stored in the original wallets in which they came back from the chemist who developed and printed them. If you have them in this way we would advise you to mark on those wallets the subjects and date of taking.

We are not, however, so concerned with those who are only photographers for a week or two in the summer, as we are with those of you who are making a definite hobby of photography and are therefore taking every opportunity to use the camera. Although you may not have a fairly large collection of negatives at present, you will soon. So it is the purpose of this article to show you how to store them quickly in such a manner as to be able to find any one of them without a lot of time being wasted.

A Useful Drawer Cabinet

By means of a system it is possible for you to store all those which, as previously mentioned, are laying about in odd places and to continue for just as long as you keep your hobby going.

This is a filing system, which was hit on by the writer some few years ago when he managed to pick up an old card index drawer. Those of you who are fond of doing your own carpentry will be able to make one quite easily. The drawer is made from $\frac{1}{4}$ in. wood with the box cover from $\frac{3}{8}$ in. The handle is Hobbies No. 238 oak drawer pull ready to fit. Helpful dimensions are shown in the drawings. The actual negatives are placed in envelopes 6ins. by $3\frac{1}{2}$ ins. having a flap cut almost square with the body but $1\frac{1}{2}$ ins. deep.

How to Store

This is how the scheme works in actual practice. We will assume that you have been at the hobby for say three years. Collect all the films of 1935, some of which are portraits of your friends, others of snaps taken on the summer holidays, and perhaps there are two or three lots of other events during that year.

Marking the Envelopes

Take the first envelope and mark it on the top of the flaps "1935." A little lower, but still on the flap put Number 1. PORTRAITS. If the collection is varied and you want to separate say those of your family from snaps of your other friends, make two envelopes of this group.

Be sure to number them 1, 2 and so on. For the batch of summer holiday snaps it is advisable to split up into smaller groups—as for instance, Beach Scenes; Views when on Rambles, or if you visited several places and have a good number of negatives from each take an envelope for each place visited.

Your series of envelopes will read—"1935. 4. Beach scenes at Eastbourne. 1935. 5. Views on walk to Newhaven," and so complete that collection.

Our Photographic Feature

(Continued)

WHEN ALL THE NUMBERS ON A ROLL-FILM ARE FINISHED TURN ON

GUM STRIP

TILL THE FILM IS COMPLETELY ROLLED ONTO THE WINDING SPOOL, THEN TAKE IT OUT AND SEAL WITH THE TAB OF 17

GUM PAPER FOUND AT END OF THE BACKING. THE FILM MAY BE

DEVELOPER HYPO

DEVELOPED AT A DEALERS OR YOU CAN DO THE JOB. 18

FOR THIS YOU NEED TWO DISHS (AS 18) CONTAINING (1) THE DEVELOPER (3rd PER PACKET) - (2) THE FIXING SOLUTION. A BOX OF FIXER (HYPO) MAKES UP A LARGE QUANTITY AND ONLY

DEVELOPER

19

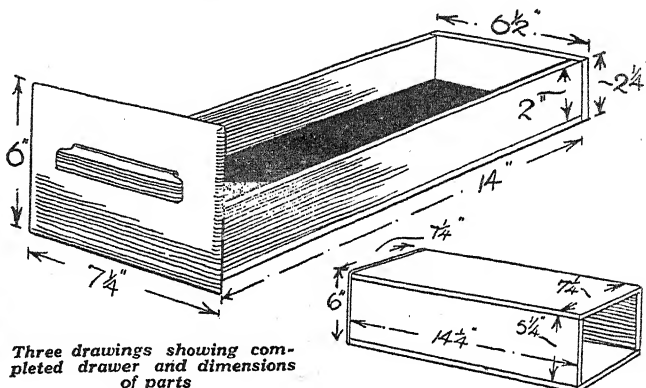
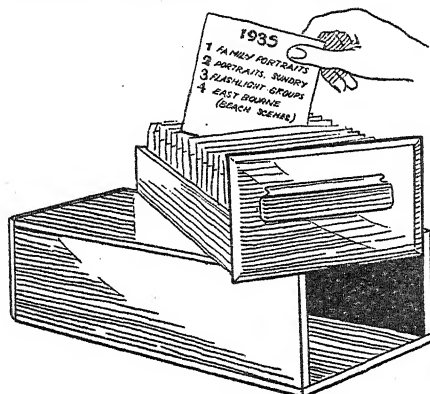
COSTS A FEW PENCE. FOR ILLUMINATION WHILE DEVELOPING

YOU MUST USE A RED LAMP AS THE EMULSION ON THE FILM IS NOT SENSITIVE TO RED. 20

For the lot which were taken in 1936 you file in exactly the same way and likewise for those of 1937. When you have completed this part of the work you will have collated your accumulation in such a way that you will be able to put your finger on any and every one immediately.

An Annual Index Card

There is one addition which those of you who are filing back negatives must do to make the system 100% efficient. That is an Index card for each year. You only need a thin card for the purpose, and for a drawer of the size given it should be somewhere about 5ins. by 4½ins. upright.



Three drawings showing completed drawer and dimensions of parts

This should have, in prominent figures, at the top the date of the year and should be arranged like this—

- 1935.
1. Family Portraits.
 2. Portraits. Sundry.
 3. Flashlight Groups.
 4. Eastbourne. Beach Scenes.
 5. Eastbourne. Walk to Newhaven, etc.
 6. Eastbourne. Hastings and Battle Abbey.

These cards are placed in front of each year in the drawer and when you require a certain negative your memory will tell you in which year it was taken. So you turn to the card and take out the envelope containing that negative and in a few seconds you have found the required film.

Helpful Additions

Those who are taking up photography for the first time this year, will see from this illustration how to proceed with your filing. Do not hesitate to put several negatives into each envelope. A couple of dozen will be quite alright for they will

not harm and it will make the system rather more efficient than to put only two or three in each.

Here is another very useful addition to such a system of filing. When you have made some prints from any of your negatives you will find it of great help to make a note of the paper used, the developer, and the time and distance of exposure. Slip this note into the envelope with the negative and you will not have to waste time or paper when you make further prints from it.

Here is the idea.—

Negative of Father in the Garden.

Paper—Barnet Scott Soft Gaslight, Developer M-Q.

Exposure—6 seconds, 12 inches, 40 watt.

The same idea will specially appeal to those who enlarge when printing for it will mean not only the saving of time but also money.

Keeping a Book

If you prefer it, these records of print-making can be retained in an ordinary index book but for this, every negative will have to have a distinctive title and be indexed under that title. This, however, is rather a tax on the memory, for if you have a large number of negatives it is not easy to give them titles which can be remembered. Although we know of some keen amateurs who do it this way, we recommend the slip in the envelope.

Some of you may have a good scheme already in use and we should be quite pleased to know about it, if you think it is better than the one mentioned. It is interesting to know, however, that the drawer which the author has, has been in use for some years now and contains some four or five hundred films dating back to 1925.

Gothic Clock—(Continued from page 278)

must be made that to make the doors to open, the solid lines shown on the pattern must be cut through and the two parts hinged independently as shown in the left-hand sketch of the clock open.

Be sure and do all the interior cutting to the doors before they are cut round, and also cut the base section patterns (sides B) from the sheet before sticking down the larger piece of the pattern.

The overlays above the door, shown as J, will be cut two together from the single pattern shown, also the outlines for overlays marked K

upon the doors will need to be traced and transferred to the wood ready for cutting out. In fixing the front of the case to the sides, keep the two doors and the piece E above the doors together and secure them thus so that the doors will eventually fit properly and in true position with the piece E above.

Fix two small knobs No. 80 to the doors in the positions shown. The frets of the doors would look well if they were backed with coloured linen cloth or even thin oak wood.

Photographers

Send for free Specimen

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TRADE MARK 'RYTOL' MARK

Universal Developer

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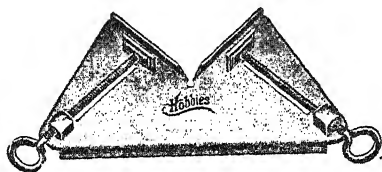
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Useful for gluing-up corners. All steel. Lasts a lifetime.

All-steel construction. To take moulding up to 2 1/2 in. wide. Just the tool for gluing-up picture frames and all mitre joints. Once used, you will never be without one.



It Costs ONLY

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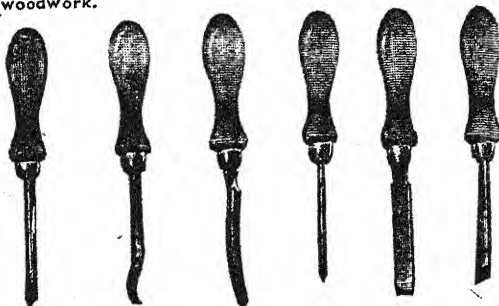
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Great fun—woodcarving. Provided you have the right tools. Here they are—a complete set for a few shillings. All the shapes you need—real sound tools of British make. With them you can turn out no end of useful decorated pieces of woodwork.



Set of Six Tools

Price 6/6 (Post 3d.)

A WOOD PARCEL

Hobbies Ltd. supply a special parcel of thick wood suitable for carving. Weight about 5lbs. Price 2/3, or sent by post for 3/- post free.

These tools are reliable, sharp, strong—and just the thing for the young beginner. The varying shapes provide for cutting at any angle or curve. Nothing to equal them for value.

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If it is your desire to make progress and establish yourself in a good career, write to us for free particulars on any subject which interests you, or if your career is undecided, write and tell us of your likes and dislikes, and we will give you practical advice as to the possibilities of a vocation and how to succeed in it. You will be under no obligation whatever. It is our pleasure to help. We never take students for courses unless we feel satisfied they are suitable. Do not forget that success is not the prerogative of the brilliant. Our experience of over 30 years proves that the will to succeed achieves more than outstanding brilliancy.



J. H. Bennett

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Wireless Telegraphy and Telephony
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If you do not see your own requirements above, write to us on any subject. Full particulars free.



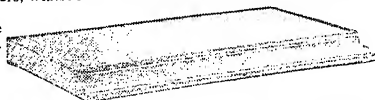
Dept. 62, THE BENNETT COLLEGE, SHEFFIELD.

MOULDING for the woodworker

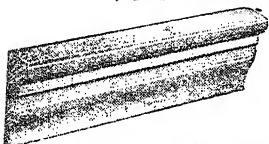
These are just the mouldings which the amateur carpenter needs. The base moulding and corner moulding are used in building up gramophones and wireless speakers and cabinets. The angle moulding No. 300, etc. is to cover bad corners, whilst No. 303 is as a cover moulding or drop ornament under an overhang. All are well cut, but quite cheap in price and suitable for any class of work.



BASE MOULDING. .2ins. wide, $\frac{3}{8}$ in. thick No. 41.
OAK, 3 $\frac{1}{2}$ d. per foot. HAZEL PINE, 3d. per foot.



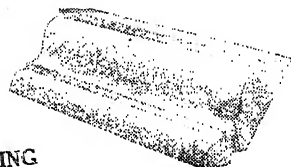
BASE MOULDING. .1 $\frac{1}{2}$ ins. wide, $\frac{1}{4}$ in. thick No. 42.
HAZEL PINE. Price 1 $\frac{1}{2}$ d. per foot.



MOULDING No. 303 Hazel Pine

$\frac{3}{4}$ in.	..	1 $\frac{1}{2}$ d. per ft.	1/3 per doz.
1in.	..	2d. " "	1/9 " "
1 $\frac{1}{2}$ in.	..	2 $\frac{1}{2}$ d. " "	2/3 " "

Postage Extra



CORNICE MOULDING

2ins. wide. $\frac{1}{2}$ in. thick. No. 43
HAZEL PINE. Price 3d. per ft.

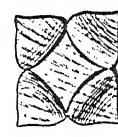
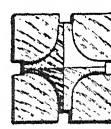


GROOVED MOULDING

For cut-out calendars and statuettes. In light wood with $\frac{1}{4}$ ins. or $\frac{3}{8}$ ins. groove.
1d per ft. 10d. for 12ft.

No. 300. — $\frac{1}{4}$ in. Sides. Price 3d. ft. 2/6 doz. ft.
No. 301 — $\frac{1}{2}$ in. Sides. Price 2d. ft. 1/9 doz. ft.
No. 302. — $\frac{1}{2}$ in. Sides. Price 1 $\frac{1}{2}$ d. ft. 1/3 doz. ft.

Give Reference Number when you order and include return postage.



No. 230.—1 $\frac{1}{2}$ d. No. 231—2d. No. 229—2d. No. 228.—1 $\frac{1}{2}$ d.

All these rosettes are in beech and measure 1 $\frac{1}{2}$ in square. Suitable for ornaments on any work.

Obtainable from Hobbies branches or agents everywhere. Or by post from Hobbies Ltd., Dereham, Norfolk

A Lathe and Fretsaw

Here is a double-purpose machine which costs little more than an ordinary fretmachine. With it, the handyman can do a hundred and one jobs in wood. He can turn his own knobs, legs, feet, etc. And with the fretsawing attachment he has all the features of the standard Hobbies fretmachine... lever tension sawblade... 19ins. clearance behind saw... tilting table, etc. The lathe comes complete with two rests, three turning tools, 2in. faceplate, a spur centre, screw centre, etc. The distance between centres is 14ins. whilst the height to bed is 27ins.

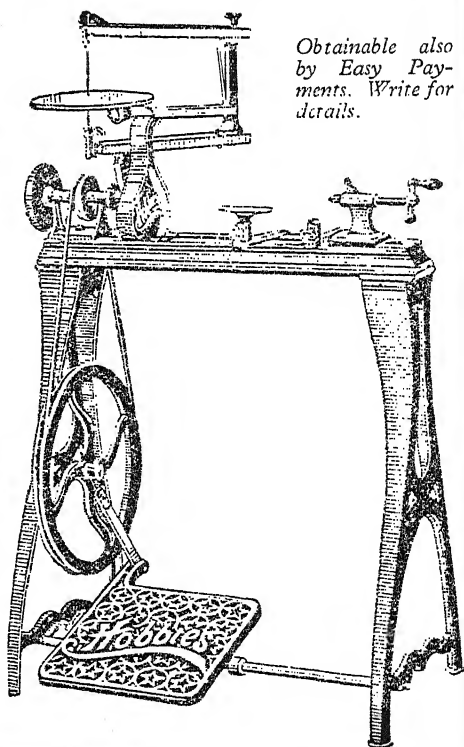
A larger lathe, 6ins. higher and 20ins. between centres costs £1 extra.

Get One from Hobbies

95/-

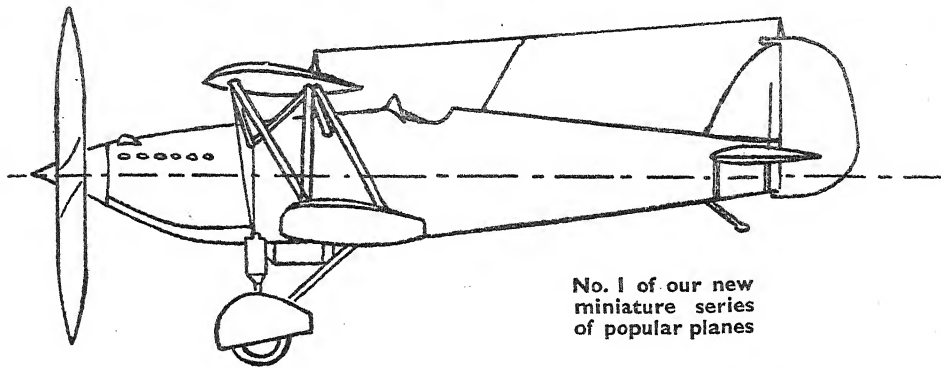
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Free Illustrated list on request.

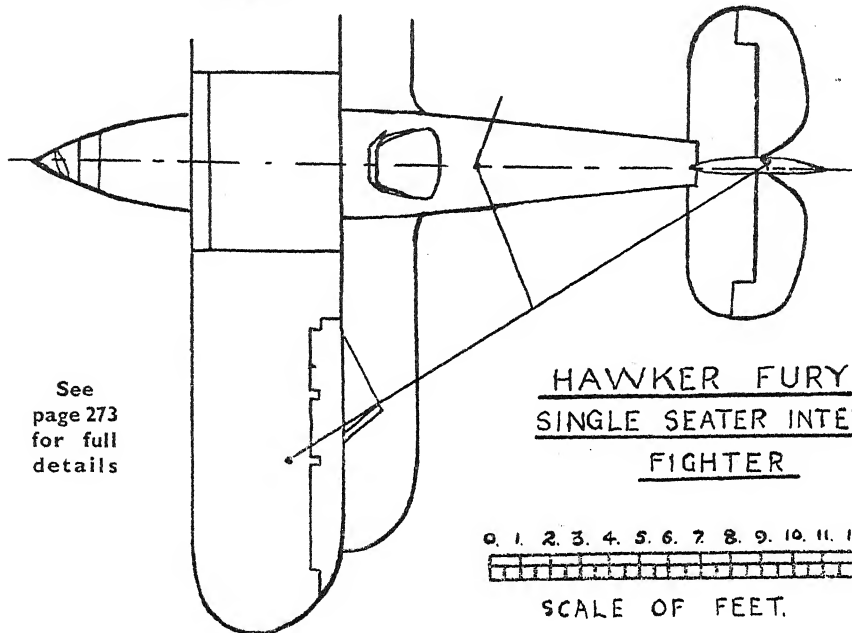


Obtainable also by Easy Payments. Write for details.

A SMALL SCALE MODEL PLANE



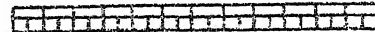
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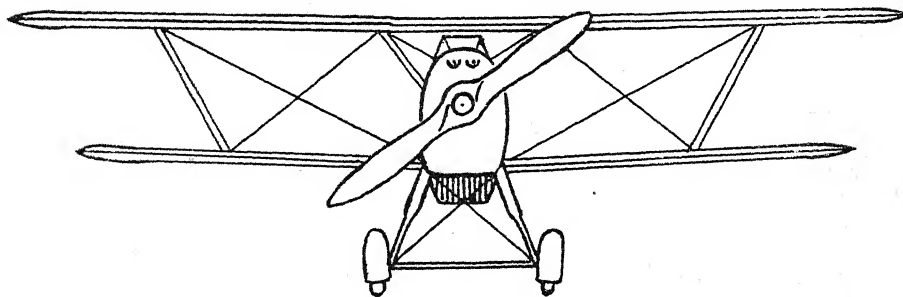
See
page 273
for full
details

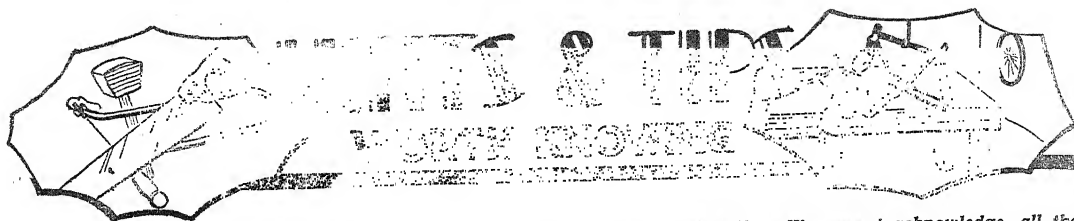
HAWKER FURY
SINGLE SEATER INTERCEPTOR
FIGHTER

0. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.



SCALE OF FEET.

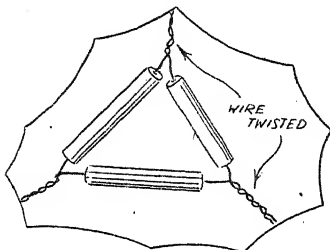




For original Tips published the sender will receive a *Hobbies Handy Propelling Pencil*. We cannot acknowledge all those received or guarantee to print them. Send to The Editor, *Hobbies Weekly*, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

Chemical Triangle

A USEFUL pipe-clay triangle for chemical experiments can be made from one or two clay pipes. Pieces about 1½ ins. long, should be broken off and threaded



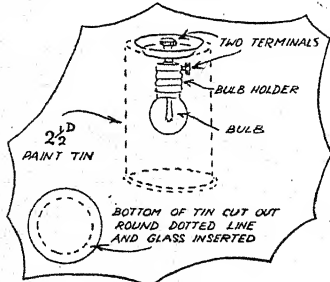
on wire as shown in diagram. Do not have wire which fits the hole in the pipe-clay too tight or the expansion due to heat may snap the tube. Leave the ends of the wires long enough to rest on the tripod, as can be seen. (P. J. Hart, Pimlico).

A Polishing Glass Tip

A USEFUL and simple hint for polishing glass is to take a sheet of newspaper, roll into a ball and polish the glass.—(W. H. Latham, Morecambe).

Small Tent Lamp

HERE is a useful tip to make a small tent lamp or a reserve lamp for mending a puncture on a dark road. First get a Hobbies enamel paint tin, take off



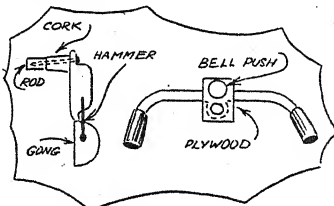
the lid and screw on an electric pocket lamp bulb holder. Then fix on two wires and screw in your bulb. Cut out the bottom of the tin and put in a watch glass. Thus you have your lamp all ready to fix to your battery.—(G. Richardson, Hounsdtich).

Vertical Drilling

WHEN boring a hole with a brace and bit, it is necessary to get it vertical. A good idea is to place a mirror at the side of the wood. The bit will then be reflected, and if it is vertical, both the bit and the reflection will appear to be in one line. If the bit is not vertical, the bit and the reflection will be at an angle.—(H. Thom, Glasgow).

An Electric Bicycle Bell

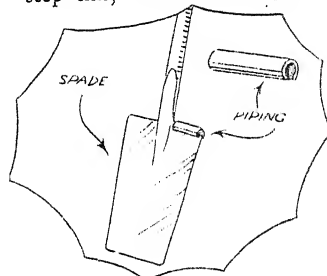
I HAVE just fitted this on my cycle, and it is very satisfactory. All that is needed is a cork, a small piece of wooden rod ½ in. long and ¼ in. wide, a long nail, a bell, a battery, bell push and a few yards of wire. First push the nail through the hole in the top of the bell, then through the cork, and finally through the rod, as shown. Leave that, turn to the handlebars and undo the nut in the centre. Then take a small



bell push (I used one about 1 in. across) and a piece of plywood larger than this, and about 1 in. longer. Bore a hole in the end, put the rod from the handlebars through and fix the nut up tightly. Screw down the bell push but before doing so, attach two wires and lead them along the frame to the saddle. The cork on the bell is pressed into the hole in the frame under the saddle. One of these joins on to the bell, and the other goes to the battery. This can be kept either in the saddle bag, if there is one, or if not, in the tool bag. I used a G.B. battery. Finally take a short piece of wire from the other pole of the battery, to the other pole of the bell. Press the bell push on the handlebars, and the bell will then ring.—(E. H. Magee, Bournemouth).

Shovel Protector

OFTEN when using a spade or shovel, the place where you put your foot gets rather sharp and, in time cuts your boot. To stop this, secure two lengths of



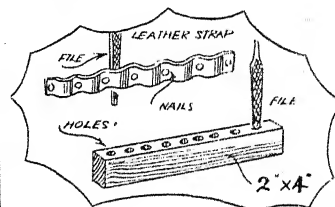
½ in. piping about 4 ins. long and cut down one side. Then place the piping on the sharp edge. You will find that it will last a long time without breaking.—(D. MacPhail, Mata Mata, N.Z.)

Fixing Window Panes

THIS tip will be found very useful when putting in window glass. Before putting windows, coat the edge of the glass and the frame with a good grade of outdoor paint and apply the putty while the paint is tacky. It acts as a base to which the putty will adhere more firmly so that it is less likely to crack and come off.—(D. Wilcock, East London, S.A.)

Simple Tool Rack

A GOOD device for holding files, screwdrivers, etc. is to take a narrow strip of leather and nail it to the wall as shown. The files, etc., are stuck in the



loose loops. Another device is to bore holes in a piece of two-by-four wood as shown, and nail the wood to the wall. The tools are placed in the holes.—(Z. G. McFarlane, Gainsborough, Canada).

The EDITOR'S NOTES



MANY of you may be anxiously waiting for the result of the May Photographic and the Maze Competitions, and I hope to be able to allay your anxiety next week. So many readers imagine that Hobbies is like a newspaper—prepared today for publication tomorrow. Well, no magazine can be rushed through like that, and much more pains and patience are taken over their preparation and distribution. Consequently, I am unable to “put it in next week’s Hobbies” as requested by many readers.

* * *

THE same, naturally, applies to the competition results. The entries have to be sorted and then judged very carefully. All of which takes time—particularly in the case of photographs—so it is naturally some time before the final lists are ready to print. Please do not be impatient, therefore, if any results or correspondence lists do not appear immediately, or any request you send in is not printed for two or three weeks.

* * *

I IMAGINED I should hear something when I mentioned recently about the number of matches used in a piece of work made by a reader. You may remember he had 25,422 matches, and the distance they would reach was left to George to sort out. But George is always lucky, and here again a number of readers gave me the result long before he had worked it out. But here again there was a variety of opinion because anything between 1 inch and 2 inches was allowed for the length of each match.

* * *

ANYHOW, I was hopelessly out in my guess of stretching across England—even at its narrowest part—because the length is very considerably under a mile! And if they are put side by side, as one reader points out, they would only occupy a distance of 88 yards 9½ ins.! So that’s that.

* * *

THE suggestion has been made from several directions that Wireless Notes would be helpful and interesting. Now would they? It is a very wide subject, of course, and one which could certainly not be dealt with in the highly technical

manner of some papers. Then again, some would want crystal sets, others super valve sets, and some, possibly, television sets. Now the last mentioned is almost beyond the ability of the average amateur, even apart from the heavy cost of the parts. But I would like to know what readers think of the suggestion of wireless articles in these pages, and what they would like. Of course, only a very few years ago nearly everyone made their own sets, and were constantly building and reconstructing. But now, it seems to me, most people buy their own ready-made. Anyhow, let me know what you think about it, will you?

* * *

AN interesting picture came along recently from Victor Sutton of Billericay, Essex, of a wonderful fire scene in which his models were used. There are 45 engines, dozens of escapes and complete water towers and salvage equipment. The models are splendid replicas and the whole scene is laid out with an imitation burning building, firemen and hose all over the place and a wonderful scene of apparent activity. To prove the interest and value of such work, Mr. Sutton has appeared in four television performances, sold the film rights, booked it for a Christmas bazaar, and sold quite a lot of illustrations. Just shows what originality and work will bring about by enthusiastic readers. Mr. Sutton, by the way, acknowledges much useful aid and practical helpfulness from Hobbies ever since he commenced making models when a boy at school.

* * *

I AM afraid one of our friendly readers in the Correspondence Club has a grouse against some others. He resides in Klang, in the Federated Malay States and says some of the correspondents do not reply to his letters—particularly from part of Africa—nor do they return the stamps he sends. That is really a bit thick, I admit, but our friend should remember that it is little use sending stamps because they cannot be used on correspondence from another country.

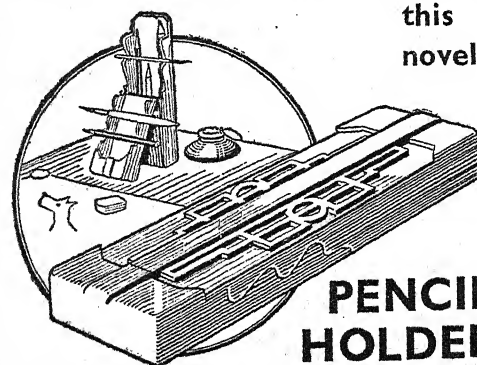
* * *

THE novel holder illustrated will appeal to all our younger readers I know, for it is useful and practical. Don’t miss next week’s number.

The Editor

Next week’s patterns for making

this
novel



PENCIL
HOLDER

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamp must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

WANTED YOUNG MAN interested and with sales ability to take charge of sales of Marklin model railways, model boats and aeroplanes, etc.—Vallance & Davison Ltd., 144 Briggate, Leeds.

LATHE AND FRETSAW 95/- carriage forward. Treadle-driven and just the thing for the home handyman. Write for details.—Hobbies Ltd., Dereham.

FREE! SIX NEW ISSUES. Request approvals, postage 2d.—Smith & Smith, 30 Haven Road, Canford Cliffs, Bournemouth.

THE WORLD'S MOST POPULAR FRETWORK SET—Hobbies A1, price 10/6; post 9d. Other sets from 1/6 to 21/-. Send for list.—Hobbies Ltd., Dereham.

WANTED original poems, songs, for immediate consideration. Send poems to Columbian Music Publishers, Ltd., Dept. 280, Toronto, Canada.

POLISH OUTFIT 2/3; post 6d. Comprises three kinds of stain crystals, woodfiller, cotton-wool rubber, bottle of Hobbies "Lightning" polish, glasspaper and instructions.—Hobbies Ltd., Dereham.

LONELY? Then write Secy., U.C.C., 16BB, Cambridge St., London, S.W.1. Genuine. Estab'd. 1905.

FRAME YOUR OWN PICTURES! We supply mitre block, cramps, mouldings, etc. Easy, fascinating work. Profitable, too!—Hobbies Ltd., Dereham.

50 STAMPS FREE. Approvals 2d. stamp.—Paul, 43 Bramley Road, London, W.10.

IT'S EASY TO ENLARGE DESIGNS, pictures, etc., up to eight times original size with Hobbies all-steel Pantograph. 4/6; post 6d.—Hobbies Ltd., Dereham.

BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

DO YOU KNOW WOOD? Eight specimen pieces each about 3ins. square, marked for reference, 8d. post free.—Hobbies Ltd., Dereham.

6/- IN THE £ COMMISSION. Xmas Club Agent wanted.—Garratt, Stockley Street, Northampton.

MAKING A CLOCK? We supply movements from 3/9. Hobbies Ltd., Dereham.

DOLL'S HOUSE Papers, Fittings. Bathroom set, fireside set, door knocker, etc. Write for list.—Hobbies Ltd., Dereham.

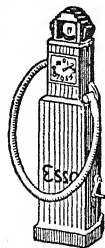
MAKE YOUR OWN UKULELE, Mandolin, Guitar, etc. from Hobbies designs and materials. You'll be surprised how easy and cheap it is!—Hobbies Ltd., Dereham.



Realistic Traffic Lights. 7½ ins. high, with 3-lamp switch. With battery.

2/11

Postage 4d.



Petrol Pumps of Esso or Shell. Lights lamp when pumped 6 ins. high. Complete with battery inside.

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Postage 3d.



Realistic Lighthouse on rocks. Lamp which lights Complete with battery inside.

2/11

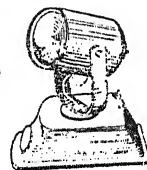
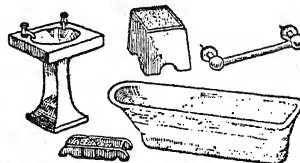
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Models..

BOYS..... Here's a chance to buy some fine electric working models. If you are making a Doll's House why not get the set of bathroom fittings in polished aluminium.

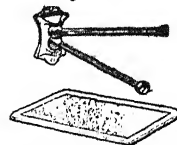
BATHROOM FITTINGS

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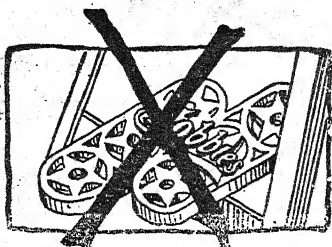
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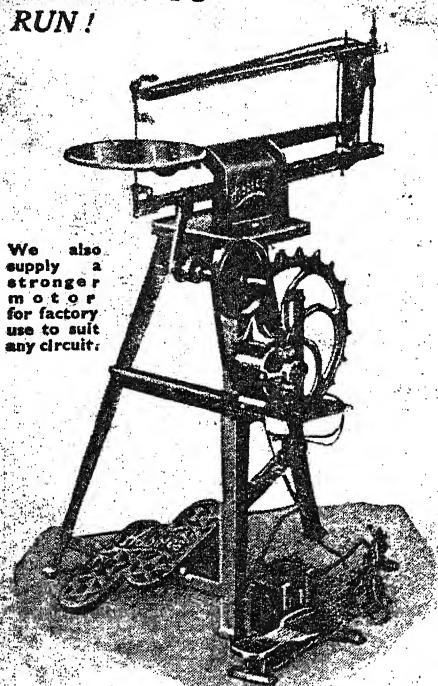
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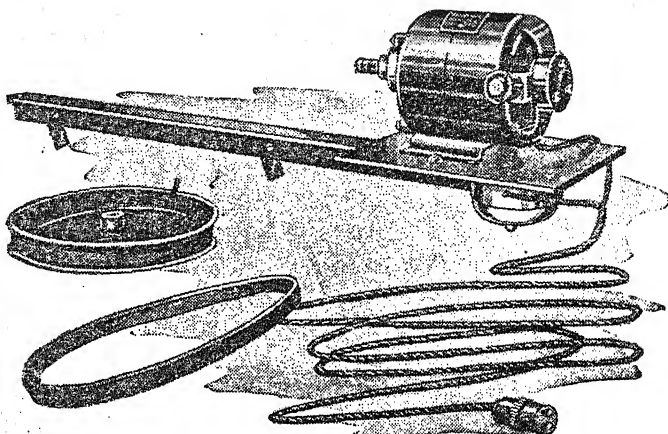
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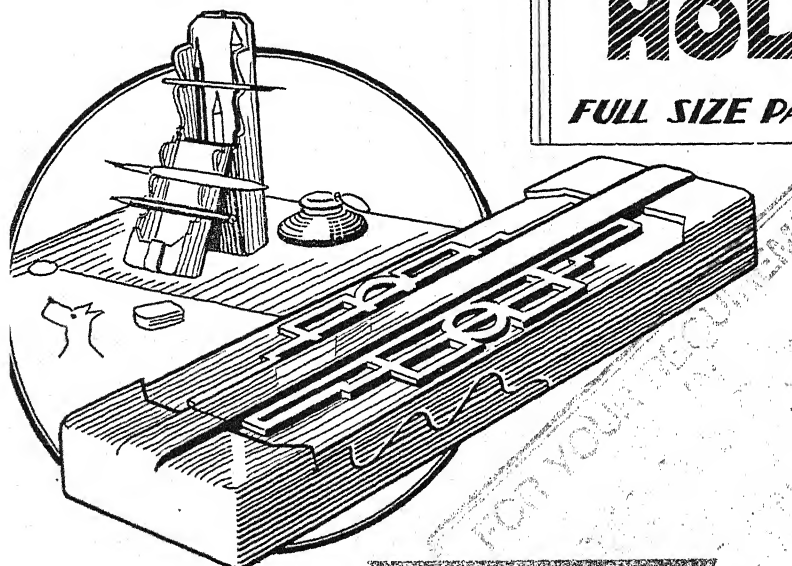
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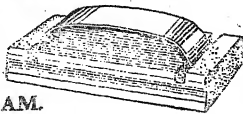
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THE FRETWORKER'S AND
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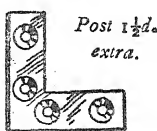
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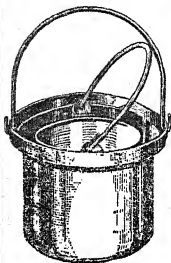
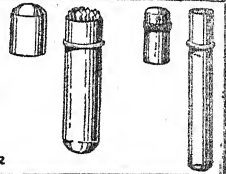


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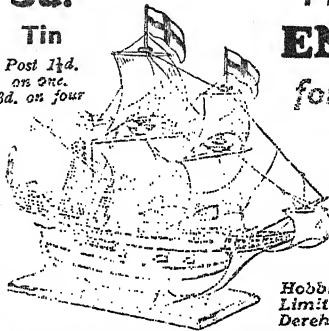
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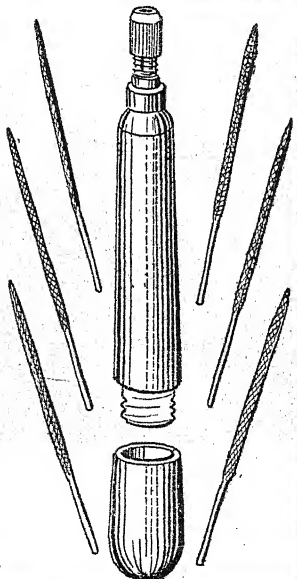
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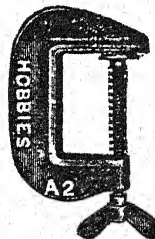
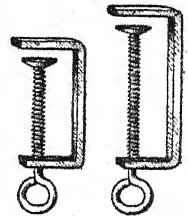
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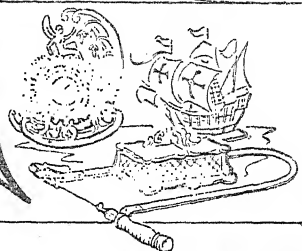


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NOVEL PENCIL BOX AND PEN RACK

WHAT about this as a novelty for the younger readers and workers to make up? And even if you are not still a young reader, surely you know some small person who would be able to use this practical little box in which to keep his pencils and rubber.

You see the idea? When closed, the box is a container to hold the necessities of the draughtsman. Then, when he wants to use it, all he does is to split the box in two, stand the whole thing upright on his desk or table and so have all his requirements handy.

If, too, you like to make things for profit as well as pleasure, this is just the type of article which will readily sell in a fancy shop or even a draughtsman's supply stores.

All of it can be made from a few pieces of fret-wood, and a complete parcel of the material is supplied quite cheaply as shown herewith. Beyond the wood, you need a ball catch which keeps the whole thing shut, and a pair of hinges which allows it to open. These also are supplied for a few pence so the whole thing can be made up quite cheaply.

The Patterns

The necessary patterns are shown full size on the centre pages of this issue, but as most of them are plain rectangular pieces, they can easily be marked out direct on to the wood and so save the trouble of pasting down and afterwards cleaning off.

In the case of the two fretted

patterns which decorate the top, however, it is as well to paste these down to the wood to ensure accuracy.

All the parts are taken from quite thin boards of either $\frac{3}{16}$ in. or $\frac{1}{4}$ in. thickness, and the constructional details with the patterns will give an excellent idea how the whole thing is made up.

To start, we must be careful to keep all edges straight, because the parts are glued together only with a butt joint. Unless, therefore, the edges of the wood are quite straight, they will not bed down on the other parts nicely.

The Framework

Another point is to get them all tested out for accuracy in size. The long pieces must not taper from one end to the other, nor the edges of the wood slope inwards.

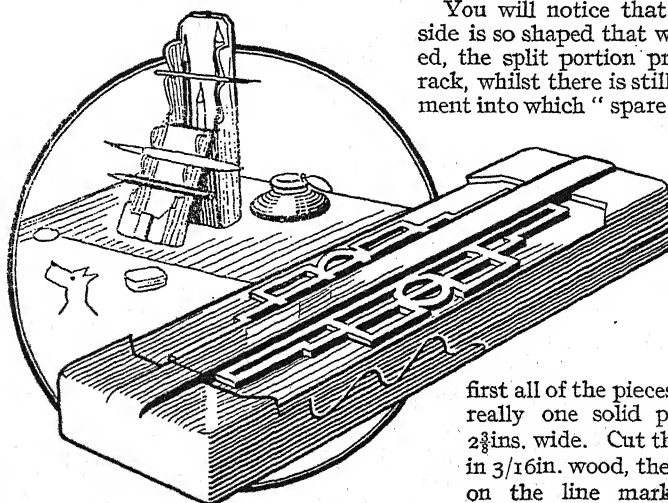
Notice, too, that although both the top and the bottom of the box are cut from one piece, they are also split in two to allow for the hinging and the bracket piece.

You will notice that the groove in the side is so shaped that when the box is opened, the split portion provides a handy pen rack, whilst there is still an upright compartment into which "spare parts" can be stood.

The lower portion when it is open also has a short front to it, and this is intended to hold the rubber as shown in the detail.

Now for a few words on the construction. Get out

first all of the pieces A and B. They are really one solid piece $\frac{9}{16}$ ins. long and $2\frac{3}{8}$ ins. wide. Cut the whole thing square in $\frac{3}{16}$ in. wood, then run a sawcut across on the line marked X. It is on



these two pieces which the sides are built.

The two long pieces E and F are cut to outline first, then the wavy line of Z cut across. Glue these two pieces upright along each side of the piece A & B so that the break of the line Z comes exactly in line with X in the base.

The two ends are plain rectangles which are glued between the side uprights. The top will be the same shape as the bottom, but before fitting on, it is as well to complete it with the overlays and fancy strip down the centre. This top piece is the same size as the bottom, and also cut from 3/16in. wood.

An Ornamental Top

Having completed its outline, cut across the line Y, then replace the two parts together to fit on the overlay pieces. Down the centre goes the long strip H.

Notice that this piece is really 8ins. long and not just the length shown on the sheet. Glue it so that the end comes in line with the end of the long piece and I will form the continuation of it on the smaller portion.

At each corner, fitting close up to this long centre strip, come the overlays J 1/2in. wide. Cut them carefully so they are flush with the sides.

At one end, too, the angle cut will be the same as that of the short piece, thus forming a stop and also making the opening less obvious. The dotted lines on the pattern of the top show where the overlays go, and having cut them from 1/2in. wood and cleaned them up thoroughly, they can be glued on. They will not stand up as high as the strip down the centre.

By the way, you may like to have these overlays painted a jet black, or even a gold or silver or some bright colour. If so, do not glue them in place at the moment. Wait until the whole thing has been completed, and you have painted the overlays as a separate part, then they can be glued on afterwards.

Completing the two Parts

So far we have completed the top, and made it ready to glue on to the sides. Do this now, seeing that the whole box fits together in a compact and tidy manner. The two pieces of the box should fit exactly, and, if necessary, you can add little blocking pieces inside in the corners to strengthen the parts up.

The two parts forming the box now require to be hinged together, and this should be done on the underside by putting two of the little fancy hinges shown where indicated by the dotted lines.

These hinges are usually quite tight, and this is all to the good. Indeed, if they

are not, they should be given a tap with the hammer in order to bend the support running through.

You see, we do not want them to be too loose or when the box is opened the hinges will not hold the flap as securely as they should. Fix the hinges on whilst the box is put together, because this will ensure a proper fit. Small brass 1/2in. screws should be quite strong enough, and they will not pass right through to the inside of the box.

Now we come to the point of holding the box close and to do this it is a comparatively simple matter to incorporate what is known as a ball catch. This is the sort of thing you find in furniture where a little ball at the end of a spring is

MATERIAL SUPPLIED

Fretwood—For making this pencil box we supply a parcel of beech, with padouk for overlay for 1/- (post free 1/3).

Fittings.—A pair of fancy brass hinges (No. 5308), 1/2in., 1 1/2d. ball catch (No. 5479) 2d. Postage 1 1/2d.

A complete parcel wood and fittings for 1/6 post paid.

fitted into the door and a little receptacle or hole is made in the other part to hold the door shut.

This ball catch is really in two pieces, and both are illustrated with the patterns. The long tubular piece having the ball at the end must be sunk right into a hole bored in the end of the centre top. A detail shows how this is fitted into the end of piece H and C.

Fitting the Ball Catch

Drill a hole 3/16in. in diameter then force the tube piece in. It should be quite tight, and if the hole is not large enough at first, can be made so with a piece of glasspaper or small file. Drive the catch home carefully with a light hammer.

The flat piece of metal with which it engages is fixed to the end of the box by means of two nails or screws. Cut out a little hole in the wood where the hole is in the brass in order to allow the ball to sink into it when the two parts are together.

The projecting piece of the flat brass portion should be turned on the underside of the wood or else can be cut off altogether with a file.

Finally the whole article should be given a rubbing of glasspaper, and the upper outer edges of the box can be rounded off carefully to give them a nicely curved effect.

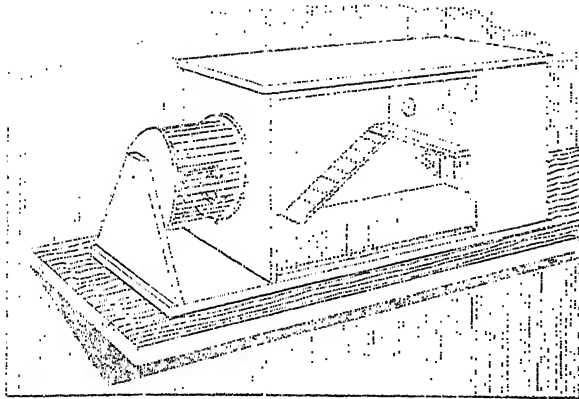
One of the points to remember in completing a box like this is to take care and have patience in the actual construction. Do not attempt to put it all together at once because you will find that if some parts are added before the glue of the other is set, the whole thing will collapse. Get framework forming sides of box quite true and at right-angles all round.

CONTENTS

| | |
|--|-----|
| Novelty Pencil Holder | 289 |
| Cage for Fancy Mice | 291 |
| Use of Glasspaper | 292 |
| Folding Camp Bed and Washstand | 293 |
| A Fish Cage | 295 |
| A Garden Tree Seat | 296 |
| "Viking" Ship Fireplace Screen | 297 |
| Small Toy Wheelbarrow | 298 |
| Pencil Box Patterns | 300 |
| Fretwork Notes | 303 |
| Hints on Mitre Joints | 305 |
| British Legion Shield Keyrack | 306 |
| Hints and Tips | 307 |
| Editor's Notes | 308 |
| British Legion Patterns | 309 |
| Stamp Tour of France | 311 |

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A CAGE FOR FANCY MICE



THE keeping and breeding of fancy mice is a popular hobby, well worth taking up. Of latter years it has advanced to the status of a serious business, and is supported by periodical exhibitions.

A pair of mice to start with can be bought very reasonable, and a suitable cage is not difficult to make oneself. A cage, large enough to keep one or two pairs of mice, is illustrated, completed with wheel which forms a fine exercise for them. It is most amusing to see them turning the wheel by a little treadmill work when they feel so inclined.

The wood to be used should be $\frac{3}{4}$ in. finished thickness, red deal is suitable. Planed wood for making bird cages is the ideal stuff if you can get it locally.

Making a Start

Take the measurements from the diagrams and cut the parts shown in the perspective view, Fig. 3, which helps to make the construction clear. As will be seen it is really quite simple. The left side of the cage is shown in Fig. 4.

It is $\frac{3}{4}$ in. short of the full width as the back is nailed to it. Bore a $1\frac{1}{4}$ in. hole where shown and $\frac{1}{4}$ in. above the centre of this hole bore a small one to receive the axle on which the wheel rotates. A piece of steel knitting needle will do for the axle.

The Construction

Having cut the parts, nail the back to the left side. Take the bottom, front, and division of the nest boxes next, in the front piece bore two $1\frac{1}{4}$ in. holes for the mice to enter, then nail all these together.

Nail these to the back and then fix the narrow front piece of the cage. Note the bottom and

division of the nest boxes are $\frac{3}{4}$ in. from the back edge to leave room for the doors.

Bars A and B are cut to length, plus $\frac{1}{4}$ in. at the right ends for joining to front piece of cage. Fig. 3 shows how they are rebated and joined to it.

Run a line down the centre of the bars (before fixing) and mark off on this line every $\frac{1}{4}$ in. for the holes for wires. Bore the holes large enough to take the wires and only just.

Prepare the base piece and nail to the bottom, the top can now be cut but is fitted later. The ladders, shown in Fig. 1, are strips of $\frac{1}{4}$ in. wood which can have small slips glued across to provide toe grips.

Miniature Ladders

Alternatively, these can be made like real ladders in miniature if desired, with stripwood sides and $\frac{1}{4}$ in. dowel or wire rungs. One ladder is fixed to the extended front of the nest boxes and another to reach the hole leading into the wheel.

The right-hand side of the cage is divided into three parts, as seen in Fig. 2. The centre part is nailed across and the other two hinged to open. Small wooden buttons are provided as fasteners, the buttons entering small notches cut to receive them in the top and bottom of the cage.

If the interior of the cage is to be painted, now is the time to do it. White, or pale blue colour is best and non-poisonous paint as used for bird cages should be employed or a distemper if you like.

Wire Front

The wires for the front are of the usual bird cage gauge and can be bought in straight lengths. Cut to the required lengths and insert carefully to avoid bending them. Now fix the top on with screws so as to be removable at any time when repainting may be necessary.

To make the wheel, cut from $\frac{1}{4}$ in. plywood two discs to the size shown in Fig. 5. Bore holes in the centre for the axle and in one disc, that to be fixed facing the cage, cut the hole shown for the mice to enter.

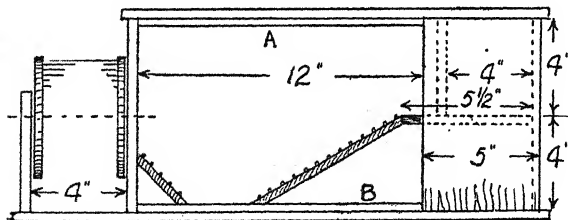


Fig. 1—Front view, showing details and dimensions

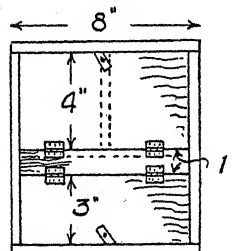


Fig. 2—Side view

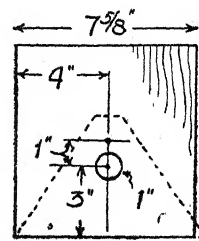
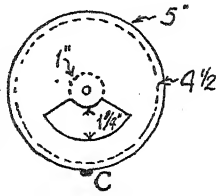


Fig. 4—Left side of cage

Strike the $\frac{1}{2}$ in. circle and temporarily fix both discs together. Now bore the holes on the circle for the wires, $\frac{1}{4}$ in. apart. These holes should be a tight fit for the wires.

With the holes in line, temporarily nail the discs to two pieces of thin wood to keep them apart while the wires are being fixed.

The width of wheel will be $\frac{1}{16}$ in. less than the distance between bearing bracket and cage so as to leave enough freedom for easy movement. Now cut the wires to length and press through the holes, file off any sharp ends left outside and remove the spacing pieces of wood between the discs.



The bearing bracket is shown dotted over Fig. 4. Cut to shape, 8 ins. wide, and bore a hole for the axle. See this hole is truly in line with that in the side of the cage. Now nail the bracket to the bottom and press the axle through the bracket, wheel and into cage. A thin metal washer might be interposed between cage and wheel to prevent the latter

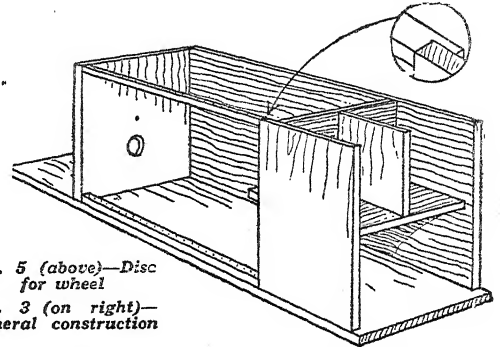


Fig. 5 (above)—Disc for wheel

Fig. 3 (on right)—General construction

CUTTING LIST

| | Length. | Width. | Thickness. |
|---|-------------------|------------|------------|
| Base | 1 ft. 10 1/2 ins. | 8 ins. | 1 in. |
| Top | 1 ft. 6 ins. | 8 ins. | 1 in. |
| Back | 1 ft. 5 3/4 ins. | 8 ins. | 1 in. |
| Sides (2) | 8 ins. | 8 ins. | 1 in. |
| Front | 8 ins. | 5 ins. | 1 in. |
| Bracket | 5 ins. | 8 ins. | 1 in. |
| Nest box bottom | 7 1/2 ins. | 5 1/2 ins. | 1 in. |
| Nest box front | 7 1/2 ins. | 4 ins. | 1 in. |
| Nest box division | 4 ins. | 4 ins. | 1 in. |
| 1 ft. 1/2 in. by 1 in. wood for ladders. | | | |
| 3 ft., 1/2 in. by 1/2 in. stripwood for bars A and B. | | | |
| 6 ins. by 12 ins. plywood, 1/4 in. thick, for wheel. | | | |

rubbing against the side. To ensure the wheel always coming to rest with its opening opposite the hole in the side of cage, drive in at C a hob nail or fix a tiny lead weight.

The exterior of the cage can be painted or left plain as preferred.

The proper use of GLASSPAPER

EVERY woodworker should use three grades of glasspaper in smoothing his work, such as No. 2 strong, No. 2 medium and No. 1 1/2 fine, the grades being used in the order given. In this way, you get a really smooth polishing surface.

Moreover, care must always be taken to dust the work free from the "grit" of each grade. Professional workers use a small, soft-haired handbrush or boot brush in this respect. If the work is not dusted, it is easy to score it with the particles of (say) No. 2 strong while rubbing with No. 1 1/2 paper and wood-filler does little to correct the trouble.

Cutting the Sheets

It is assumed, of course, that you use a glass-paper block, whether one of wood faced with 1/4 in. thick cork lino or consisting of a solid block of cork. The latter kind is easily made from scrap pieces of bath mats or seats.

This stuff is sometimes 1/2 in. thick, so two pieces 4 1/2 ins. by 3 ins. glued together is a comfortable size and convenient as regards the size of glass-paper sheets.

As the sheets measure 12 ins. by 10 ins., you can fold and crease them to give six 5 in. by 4 in. portions instead of the usual (and wasteful) four 6 in. by 5 in. portions. Crease on both sides of the paper and you'll find that the portions can be torn off quite easily.

Having used a portion of either grade, do not

throw it away. Such comes in handy for removing excess wax filling (this quickly clogs a fresh sheet) or cleaning up mouldings.

Old sheets of No. 1 1/2 paper rubbed together can be resorted to and used instead of No. 00 when such is wanted to "rub down" an unfinished french polished surface.

When glasspapering plywood, rub it first across the grain with No. 2 strong or medium grade paper, then rub with the grain. The final papering is done in the same way, this, of course, being No. 1 1/2 paper.

Glasspaper more at the ends and sides and you will find that the centre will take care of itself. Keep an even pressure on the block. Do not allow it to "dip" over the edge of the ends.

When glasspapering deal, grade No. 2 strong and No. 1 1/2 fine suffice. With hardwoods, such as oak or mahogany, the wood should be scraped prior to papering with the three grades. In this case, keep rubbing with the grain, and as you use the grades, lean lighter accordingly.

A Scraper

A scraper, as you are doubtless aware, is a rectangle of sheet steel about 5 ins. by 2 ins. by 1/16 in. thick, the flat, sharpened edges of which are rubbed over (usually with the back of a gouge or chisel) so as to scrape in the manner of glass from which the idea originated. It is used mainly after shaving timber with the smoothing plane.

A FOLDING CAMP BED AND WASHSTAND

WITH sunny days here again, the thoughts of many of our readers are no doubt turning to outdoor life and camping! Here then are two useful accessories, the value of which all campers will readily appreciate.

A really strong, yet compactly folding camp bed, and a novel little washstand that will save a good deal of "grovelling on the ground," and which also folds up compactly. Both are quite inexpensive to make up, and of straightforward construction, so that even the beginner at wood-work may tackle them with confidence.

The Camp Bed

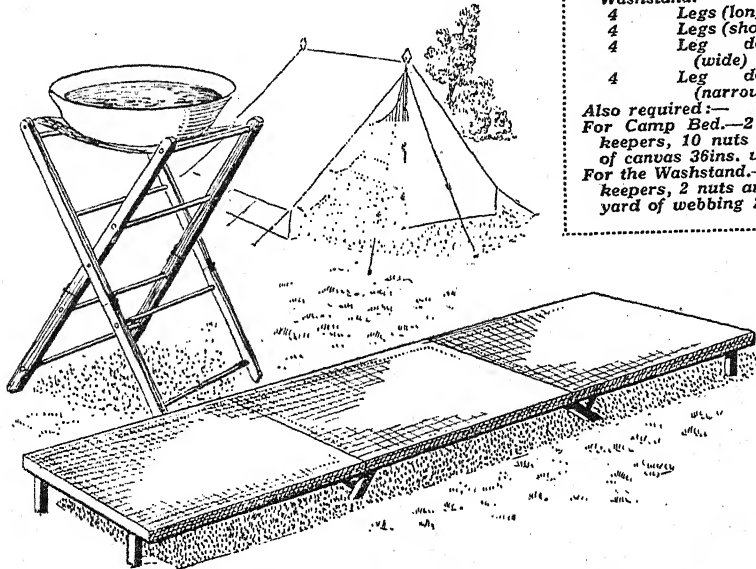
The camp bed is made from 2in. by 1½in. stuff. Beech is a very good wood to use, but any other hard wood will serve equally well. It will be seen at "A" that the framework is made in three sections, hinged together.

Make up the two ends first, then hinge the two single pieces, that form the centre section, to them. In order the bed may fold up as shown at "E," it will be necessary to put one pair of hinges on the top edge of the wood, and one pair on the underneath side.

The push-bolts that hold the framework open, will, of course, be on different edges, too, just opposite the hinges, with the bolts themselves on the end sections and the four "keepers" on the inner section.

The Legs

Make up two legs, from the same wood and 1in. dowelling, as shown at "B." Taper the bottom of each slightly, and round off each leg at the top.



It will readily be seen from "C" how these legs are bolted to the centre portion of the framework. They go inside, and are held open by a stay on each leg (letter "D").

A small block, of 1½in. thickness, is also required, to go on the same bolt as these stays. By this means they are brought out over the legs, and can be bolted to them. These last bolts are taken out when the bed is folded up, so the legs will fold into the centre section, and the leg stays into the end sections, as seen at "A."

End Supports

In addition to the leg stays, two other supports are bolted to each end of the framework, on the inside. These drop down on to the ground when the bed is in use, and fold up inside when not required. They are also tapered at one end and rounded at the other, like the legs.

Before covering the bed, stretch a piece of wide tape across in two places, just over the joints between the sections (see dotted lines in "A"), and nail them down. If pulled really tight, and both tapes arranged to cover two sections, these will tend to strengthen the framework, and help prevent canvas sagging when bed is in use.

CUTTING LIST

| Pieces. | Description. | Length. | Width. | Thick. |
|-------------------|---------------------|------------|----------------|--------|
| Camp Bed. | | | | |
| 6 | Sides | 2ft. 1in. | 2ins. | 1½in. |
| 2 | Ends | 2ft. 3ins. | 2ins. | 1½in. |
| 4 | Legs | 1½ins. | 2ins. | 1½in. |
| 2 | Leg dowells .. | 2ft. 0ins. | 1in. dowelling | |
| 4 | Leg stays | 8ins. | 2ins. | 1½in. |
| 4 | Leg stay blocks | 2ins. | 2ins. | 1½in. |
| 4 | End supports .. | 10½ins. | 2ins. | 1½in. |
| Washstand. | | | | |
| 4 | Legs (long) .. | 1ft. 9ins. | 1½ins. | 1½in. |
| 4 | Legs (short) .. | 1ft. 3ins. | 1½in. | 1½in. |
| 4 | Leg dowels (wide) | 1ft. 3ins. | 1in. dowelling | |
| 4 | Leg dowels (narrow) | 1ft. 0ins. | 1in. dowelling | |

Also required:—
For Camp Bed.—2 pairs of hinges, 4 push-bolts and keepers, 10 nuts and bolts (with washers), 2½ yards of canvas 36ins. wide.

For the Washstand.—2 pairs of hinges, 4 push-bolts with keepers, 2 nuts and bolts (with washers), and about 1 yard of webbing 2ins. wide.

Get as good a canvas as you can afford. Many of the cheaper camp beds are covered with jute, and this can be bought from most camping stores quite cheaply.

The Canvas

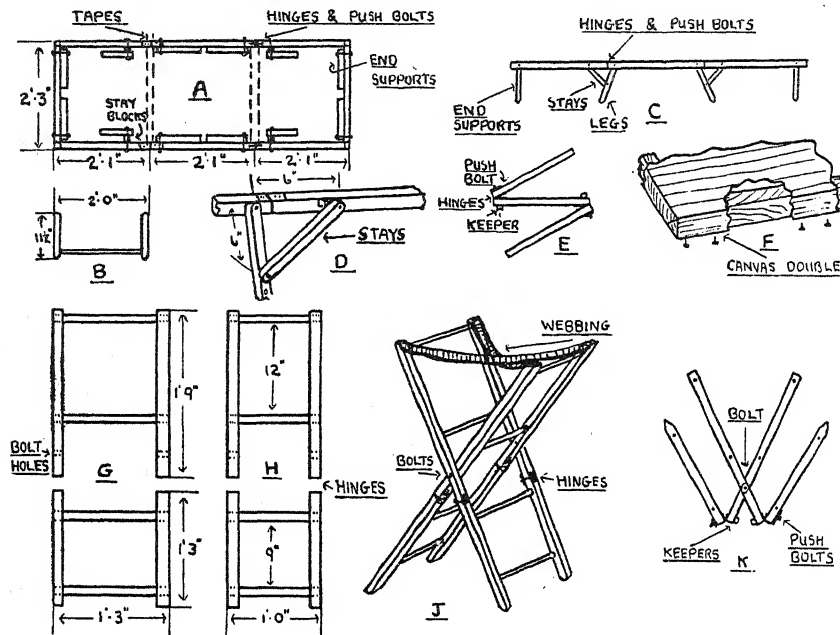
After experience with many kinds of canvas, Green Willesden has been found by far the best wearing, and well repays the slight extra cost. This can be bought (in its

narrowest width of 36ins.) for about 1/7 a yard and about 2½ yards are required.

Use the canvas double thickness where the tacks go through; that is on the underneath side, as seen at "F." Stretch the canvas as tight as possible and use tacks with big brass heads, putting them in fairly close together. You will have to cut small pieces out where the push-bolts go, to lap it neatly round them.

The Washstand

The Washstand can well be made of 1½ in. square stuff. Since this is not so much an article that the hiking-camper is likely to take with him, but more often used for a standing camp, we give first the



The constructional details as mentioned in the article

method of using a small enamel bowl with it.

Where circumstances permit, these are much more satisfactory than any of the portable canvas variety. They are cheap to buy, light in weight, and if other things are packed inside them, add very little to the bulk of one's kit. The stand may, however, be used by travelling campers

without an enamel bowl, and for these alternative methods are given.

It will be seen that the stand is made in two parts ("G" and "H"), which are bolted one inside the other as shown at "J." Each part is in two sections, hinged together for folding purposes, and held in an open position by a push-bolt on each leg.

Two stays of 1 in. dowelling are glued in each section of these legs, and they are tapered slightly at the ends, so that they stand firmly on the ground.

Across the top of the stand two strips of webbing are nailed, joining diagonally opposite corners, and on which the bowl rests. If you cut these

strips off to 16 ins. they will be just right to accommodate the usual size of small enamel bowl, which measures about 12 ins. across the top, and is about 3½ ins. deep.

A Bucket

The stand folds up so compactly (see "K"), that some roving campers who would not care to carry an enamel bowl, might be tempted to make one up. The writer himself has sometimes used his in this way.

By making the webbing shorter, and setting a small piece of board (or even a large dinner plate!) on top, a very

useful stand is provided, either for a canvas bucket or anything else that the camper would naturally set on a table if he had one!

Alternatively of course, readers of a particularly manipulative turn of mind could make a bowl from waterproof canvas, and fix it permanently to the four top corners of the stand.

Fish Cage—(Continued from opposite page)

bored through the top and bottom of the cage, drive in 2 in. wire nails to act as pivot pins or hinges.

The three sides of the cage are covered with perforated zinc, nailed to the rods and edges of plywood. This is best laid over in one piece and if ½ in. extra is allowed top, bottom, and ends which can be bent over and lightly hammered down before nailing, no rough edges will appear.

The door is similarly treated, only on the inside and the zinc so fixed as to be a little short of the top and bottom, as in detail Fig. 4, so as not to scrape the woodwork as the door is opened.

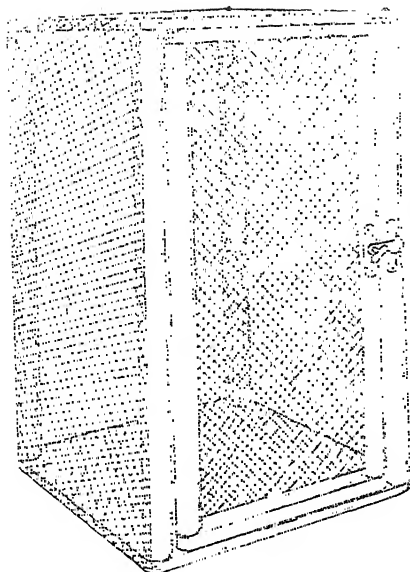
A bought fastener of the type shown in the

drawing of the finished article can be fitted to the door, or one made of the kind shown in Fig. 5 cut out of three-ply.

An article of this kind is best left plain as it needs wiping out with clean water at intervals to freshen it up. Suitable hooks should be fixed inside for the fish to be hung from, while the cage itself can either be hung on the wall or suspended by a central hook from the ceiling.

MATERIAL REQUIRED

- 2 plywood panels 12 ins. by 12 ins. by ½ in.
- 3 dowel rods 1 in. diam.
- 1 piece deal ½ in. by 1 in. by 20 ins.
- 1 Hobbies fastener No. 5494.



A useful article for the house, any handyman can make

A FISH CAGE

MANY housewives object to storing fish in the pantry, especially of the fresh kind, on account of the smell. In any case it is just as well to provide a separate place for it and this is where the fish cage illustrated comes in so handy.

This article can well be made up in a few hours as there are none of the usual woodwork joints to trouble about, so a wet dull evening can be profitably employed in making it.

The top and bottom of the cage are cut from $\frac{3}{4}$ in. thick plywood and the round vertical posts from $\frac{1}{2}$ in. diam. dowel rod. These materials with a small piece of $\frac{1}{2}$ in. by $\frac{1}{2}$ in. stuff will provide the woodwork portion. When cutting the dowel rod across it is essential to cut square to ensure a firm piece of work. Make a start by taking one of the plywood panels and marking it out as shown in Fig. 1.

Corner Posts

This is the way to do it. Just strike a $\frac{1}{2}$ in. circle at each corner, then strike the extra inner circle just $\frac{1}{16}$ in. away from the outer corner one.

Lay the marked panel on top of the other, clamp them together and in the centre of each circle bore a hole just large enough to take the shank of a $\frac{1}{2}$ in. round-headed brass screw through both panels. Now round off the corners.



Fig. 2—The disc

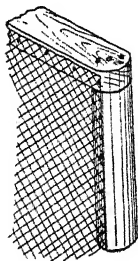


Fig. 4

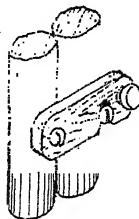


Fig. 5—Door catch

The height of the cage can be 18 ins. so that dowel rods of the standard length of 36 ins. can be cut into two. These rods must have a hole bored exactly in the centre of their ends so it is wise to make a template as a guide to accuracy.

This is a disc of tin, $\frac{1}{2}$ in. diam. with a tiny hole punched exactly in the centre, as in Fig. 2. Lay this on each end of the rods in turn and through the centre hole insert a sharp pointed tool to clearly mark it on the wood. The tang end of a file would serve. Now bore the holes for the screws to enter, not too large otherwise the screws won't grip.

Fixing Top and Bottom

Screw the rods between the top and bottom panels but don't screw up tightly. Now remove the screws from each rod in turn, glue the ends of rods and plywood and screw up tightly. Leave until the glue is hard when the framework should be quite firm.

Should it happen through bad fitting and insufficient glue that the cage is not so firm as it might be, screw in the inner angles some small brackets. However, these should not be necessary.

The Door

The door consists of two rods, joined together by strips of $\frac{1}{2}$ in. by $\frac{1}{2}$ in. wood top and bottom. Cut these strips to length, as shown in Fig. 3, and strike a $\frac{1}{2}$ in. circle each end. Bore in the centre of each circle for a stout wire nail.

The rods are cut $\frac{1}{2}$ in. less in length than those for the corner posts and bored in the centre of the ends as before. Glue between the top and bottom, strips of wood in this way. First partly drive in the centre nails, then on either side of each centre nail drive in two more, $\frac{1}{2}$ in. nails this time. Remove the centre nails of the left side; on the right drive them right home. Now fit the door in place, and through the holes already

(Continued at foot of opposite page)

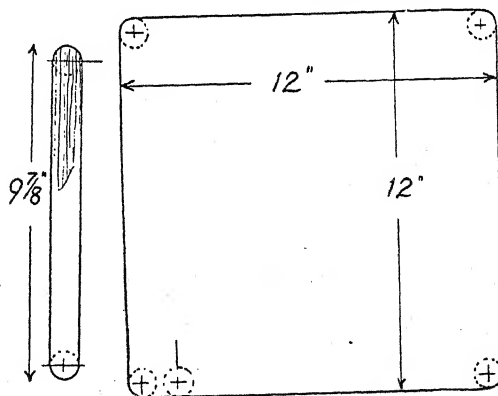
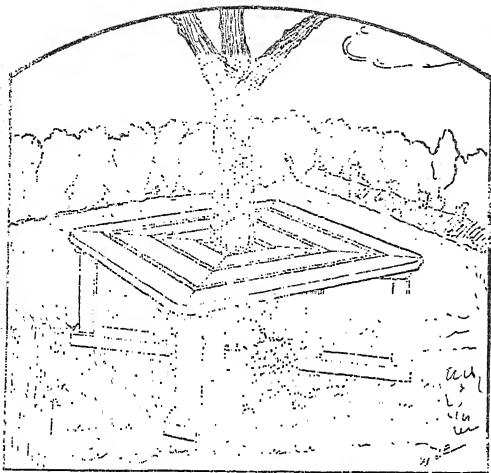


Fig. 1—The top and bottom panels

Fig. 3—Door strips



READERS who are fortunate enough to have their gardens adorned by a nice shady tree, in a convenient spot, will find it an ideal situation for a seat. The spreading boughs afford a cooling shade and the trunk a most handy back rest.

At Fig. 1 are shown two designs of seats. The square pattern is adapted to a trunk up to say 8 ins. diameter, and is of more simple construction if not so pleasing a shape as the octagonal.

The latter pattern is suitable for larger trees where the square one, with its stretch of seat unsupported midway, would possibly sag a little under weight.

A Square Style

For the former make up four of the seat supports shown in Fig. 2. The horizontal members are 1½ ins. by 3 ins. stuff and the legs 2½ ins. sq., plained red deal. These sizes of timber are by no means arbitrary, 1½ ins. by 4 ins., and legs 3 ins. sq. can be used if a stronger construction is considered necessary. The legs are tenoned in as in Fig. 3, the tenons being 1 in. deep. Paint the joints with lead paint, fit together and strongly nail.

A level foundation is essential, otherwise the seat will tend to wobble when sat upon. Place the supports round the tree and test with a spirit level, the level being placed midway on a board resting across the supports.

Firm Supports

Take care, also, the supports be firmly on the ground. If the ground be very uneven, it is better to level it up by filling the hollows with earth and rolling it hard, rather than cut away the surface.

The latter tends to lower the general level round the tree and invites puddles of rain water to settle.

The supports should be equally spaced, and this can be effected by measuring the distance between with a long strip of wood and seeing the distance is the same between each.

A GARDEN TREE-SEAT

Good quality strong timber should be used for the seat slats. 1½ in. by 4 ins. red deal or pine. The plan view, Fig. 1, shows how these slats are fixed. They are spaced 1 in. apart, and overlap front and back by 1 in. A more comfortable seat results if the edges are bevelled and the front edges rounded, as in Fig. 4. Nails, or flat headed screws, well countersunk, are used for fixing.

For a finish, the seat supports can be creosoted and the slats painted white or green, or varnished. If it is desired to also paint the supports to match the slats, do not forget to paint or creosote the under surface of the ground members to prevent damp soaking in. This point is sometimes neglected.

An Octagonal Seat

The octagonal seat is of rather different construction, the difference lying mainly in the supports. These are shown in Fig. 5. The front legs are tenoned in as before, but the back leg is provided with 1 in. sq. tenons which will go right through the horizontal members, as shown in Fig. 6.

The latter are halved together at the corner. Paint and nail the joints as already advised. A much neater effect is obtained if the front legs are stop chamfered and the ground members bevelled.

This can, of course, be also done with the square seat if preferred.

In fixing the slats, the straight ones are nailed first, the corner ones left to the last. The plan view shows how they are arranged to fit and meet together.

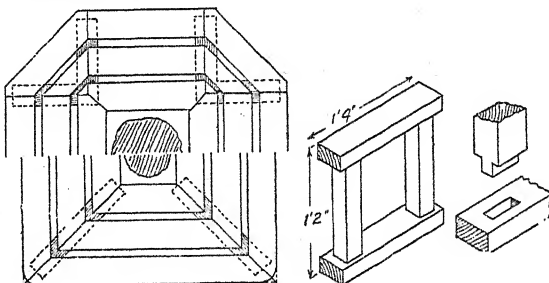


Fig. 1.—Plan of seats

Fig. 2.—Seat supports

Fig. 3.—Legs tenoned

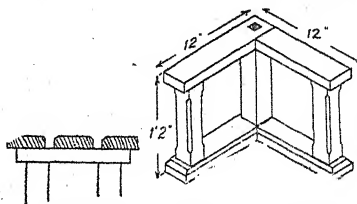
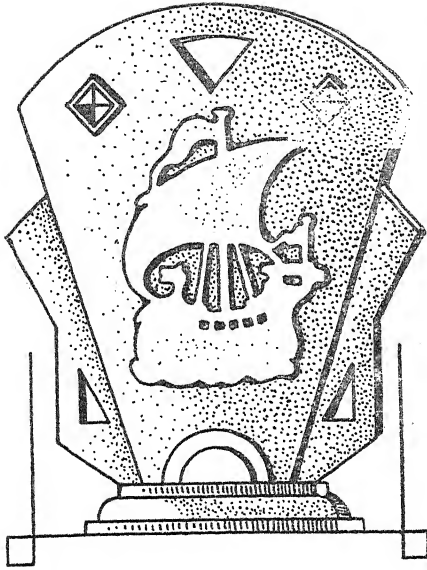


Fig. 4.—Section across seat slats

Fig. 5.—Supports for octagonal seat

Fig. 6.—Corner joint



A NOVEL "VIKING" FIREPLACE SCREEN

top. If the wood is not warped in any way, screws or nails would not be necessary and you can make a rub-joint of all three pieces.

The silhouette of the ship outlined in 3in. squares at Fig. 4 could be marked out on $\frac{1}{4}$ in. or $\frac{1}{16}$ in. thick plywood and cut out with the fretsaw. We give the bare outline of the ship and possibly you will add further little details of your own. Remember, however, that it is only the "shadow" of the ship you want to illustrate and not an intricate, detailed picture.

The Assembly

Having cleaned and smoothed the screen board, glue it to the base. At the front and back attach half circles of $\frac{1}{4}$ in. plywood, the first being 5ins. diam., and the other 3ins. diam. By cutting out a complete disc of each and cutting same in half, you get the four pieces without trouble.

If you intend to polish the work and ornaments, do so without attaching the latter. If you have decided to enamel the work, the ornaments could be affixed at this juncture. By not attaching them, of course, there is more freedom for the polishing pad or enamel brush; the ornaments tend to get in the way so that after treatment, they appear like small "islands" on the board.

After the finish has dried, it is easy to set the prepared ornaments and silhouette in their true positions and mark around same with a burnishing awl or needle. The polish or paint is scraped carefully away to within these lines and the ornaments glued in place. A sensible colour scheme is service grey and oak.

"I LIKE making old-time ship models," many readers write in to say. By way of a change, however, here are details of a fire screen and the silhouette of an old Viking ship rolled into one.

The result, as you can see, is a rather attractive screen of the very latest type. It is light, convenient and finished in coloured enamel, and we will be surprised if you don't get plenty of orders. Instead of finishing in enamel, of course, it could be polished Jacobean oak with the silhouette and ornaments a light shade to show up against the darker background.

Use Birch Plywood

The screen itself, i.e., the background, is made up of two pieces of $\frac{1}{4}$ in. thick plywood, and we would advise using good quality birch stuff in view of the alternative of enamelling or polishing. You will require two pieces 22 $\frac{1}{2}$ ins. long by 19ins. wide and these should be marked out as at Fig. 1.

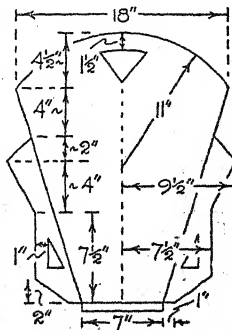
When doing so, work from a central upright line and use a set-square and compasses. Note that the front shape is 18ins. wide. The finger-grip and curve at the top is cut to correspond with the back; both pieces have tenons 7ins. long by $\frac{1}{2}$ in. deep.

When cut out, glue and panel pin the parts evenly together—or, if you don't want to mark the stuff, after gluing it could be held down with heavy books, etc., until the glue sets.

The Base Parts

Meanwhile, make the base of the screen, which is composed of three pieces of deal or whitewood the thickness shown at Fig. 3. The top piece is 9ins. by 2ins. and a mortise is cut to suit the screen tenon.

Having rounded the edges of the central piece, glue and screw it to the bottom and affix the mortised piece on



MATERIALS REQUIRED

- 2 pieces plywood 22 $\frac{1}{2}$ ins. by 19ins. by $\frac{1}{4}$ in. thick.
- 1 piece plywood 14ins. by 10ins. by $\frac{1}{16}$ in. thick.
- 1 piece whitewood 11 $\frac{1}{2}$ ins. by 4 $\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 1 piece whitewood 10 $\frac{1}{2}$ ins. by 3 $\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 1 piece whitewood 9ins. by 2ins. by $\frac{1}{4}$ in. thick.
- 2 raised square ornaments, No. 210 2ins. by 2ins.
- 4 wooden toes (No. 20) $\frac{1}{4}$ in. across.

NOTE.—The toes are optional, while the semi-circular screen pieces are cut from the waste of the front piece of the screen board.

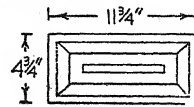


Fig. 2—Plan of base

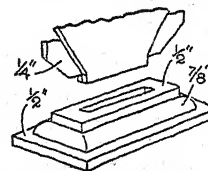


Fig. 3—Base details



Fig. 4—Ship outline in 3in. squares

A SMALL TOY WHEELBARROW

A LOT of fun can be got by youngsters having a little wheelbarrow such as depicted here, which can be used either in the garden or by the sea. The length of the article is 22ins. and at the widest part it is 10ins.

The sides, front, back and floor are all cut from $\frac{1}{2}$ in. deal, and the cutting should be done with a fairly coarse fretsaw or toy saw.

Commence work by drawing out the shape of one of the sides as shown in Fig. 1. direct on to the wood. Having marked and cut one side, lay this on the second piece and mark round so both sides are identical. Bore the hole for the axle screws also through both pieces at one time so they come exactly opposite each other.

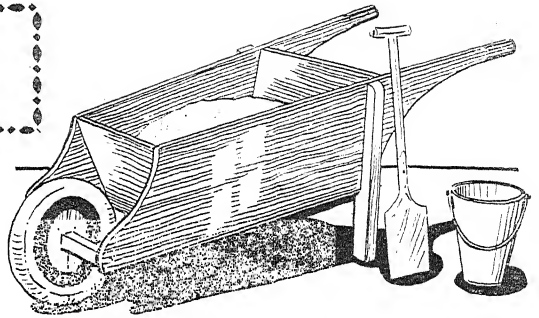
The Sides

The two sides of the barrow are upright, which simplifies the construction. Both front and back may therefore have perfectly square angles, and are just plain pieces $\frac{1}{2}$ in. thick. The upright edges, however, will need to be bevelled slightly with the plane to meet the angle of the two sides from back to front. Fig. 2 gives an idea of the barrow when the four main pieces are screwed together, and shows the shape of the floor.

This is also cut from $\frac{1}{2}$ in. deal, in two pieces of 11ins. by $4\frac{1}{2}$ in. jointed up the middle and screwed on.

The handles should be rounded at the ends and glasspapered smooth.

The size and shape of the legs are given in Fig. 3. They are cut from 1in. by $\frac{1}{2}$ in. stuff and will be cut back to half their width, as shown, to grip the sides to which they are screwed. Round



off the top corners of the legs after they are fixed on.

Go over the whole barrow with glasspaper, taking off all hard edges and corners.

Wheel and Axle

The wheel suggested for our barrow is one of Hobbies (No. 604) 5ins. in diameter. These wheels are turned from hardwood, varnished and painted. It will be necessary to cut a $\frac{3}{4}$ in. square in the centre to fit the axle piece (Fig. 4).

The axle must fit tightly into the wheel, and as the latter is of hard grained wood it will easily stand the wedging and knocking of the axle piece into it.

See the axle fits freely between the sides of the barrow before putting in the screws which should be stout roundhead screws about $1\frac{1}{2}$ ins. long.

Suitable Colours

The woodwork should receive two coats at least of good oil paint. The outside might be green or red, while the inside should be buff or stone colour. The handle parts should not be painted at all.

A well-made wheelbarrow of this kind should stand many years of hard usage, and if given a fresh coat of paint each season this should help a great deal to preserve the wood and renew the interest in the article.

CUTTING LIST

Sides, two pieces 22ins. by 5ins. by $\frac{1}{2}$ in.
Front, one piece 6ins. by 6ins. by $\frac{1}{2}$ in.
Back, one piece 8ins. by 6ins. by $\frac{1}{2}$ in.
Bottom, two pieces, 11ins. by 5ins. by $\frac{1}{2}$ in.
Legs, one piece 9ins. by 2ins. by $\frac{1}{2}$ in.
Axle, one piece 5ins. by $\frac{1}{2}$ in. by $\frac{1}{2}$ in.

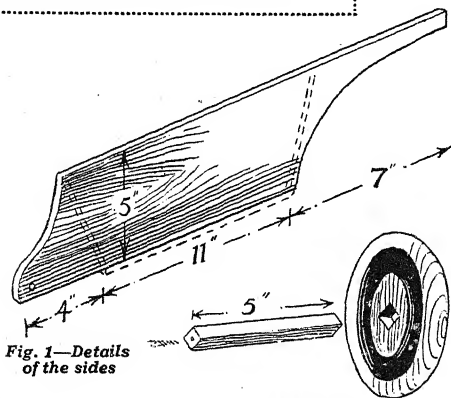


Fig. 4—Wheel and axle

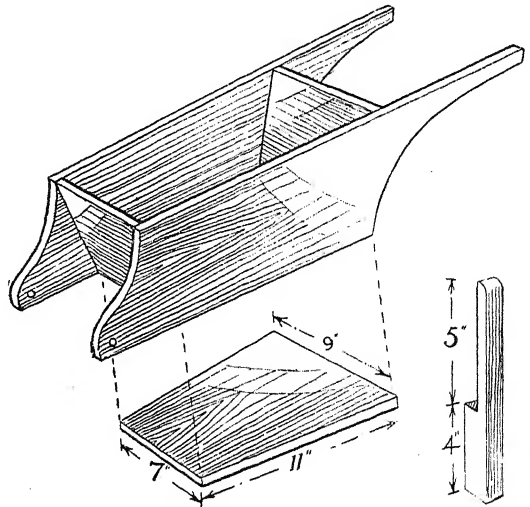


Fig. 2—Showing floor and construction

Fig. 3—The legs



FRETWORK

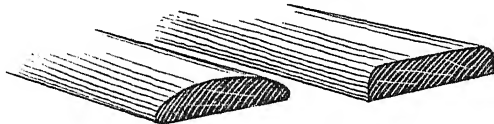
A further article in our helpful series of hints and tips to all using fretwork tools

ONE of the tools that is possibly most neglected in fretwork is the small fretwork plane. The full-size grown-up tool is, of course, an essential part of every carpenter's tool kit, but apparently a large number of workers seem to imagine that if it is not in the particular outfit they buy, there is really no need to have one.

We do not mean, of course, the jack plane or the smoothing plane or even the modern metal type as used on large work. The one required for fretwork is quite a baby chap, measuring only about 3½ ins. long and having an iron less than 1 in. wide.

How to Chamfer

It can be quite easily understood, therefore, that this cannot undertake anything heavy, but it is certainly exceedingly useful on small work where the wood is not more than, say, ½ in. to 1 in.



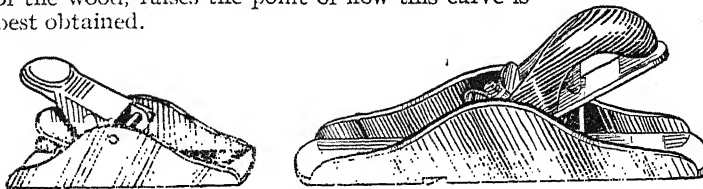
Two popular curves in shaped edges

thick. Unlike the large plane, too, it only has one iron but is really a very serviceable little tool in capable hands.

It can, for instance, be used on a long straight chamfer to get the edge of the wood down to a definite angle. Or again, it is quite useful if you want to shape the edge of wood round. You can take off the corner strip first, then repeat the process gradually rounding the edge off until there is very little work to be done with the glasspaper.

It can be used also for running along the edge if there happens to be any burr made by the sawblade. The next size is larger and measures 5½ ins. long with a proportionately wide blade. It is more of a general utility plane but serves on many occasions for squaring, rounding or even smoothing down strips or small surfaces of wood as required.

The comparative size of the two planes is given in the illustration herewith, and both should be part of the enthusiastic worker's kit. Mention just now of using these planes to shape the edge of the wood, raises the point of how this curve is best obtained.



The two small useful planes mentioned

You will notice in many instances where a thick baseboard is provided, the upper edge of it is rounded off to a nice curve in the finished article. This is done to make the wood appear thinner than it really is, and also to give a better finish to it.

This curve can be introduced as a long sloping one or as a quarter circle. Illustrations of both are given herewith.

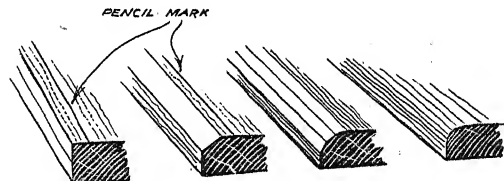
In either case it is advisable to mark off along

Stages in Chamfering. Plane and Glasspaper. Fixing Small Fittings.

the edge of the wood the extent to which the curve is to be carried, so it fades out into the surface of the material at the same point. Really when the whole thing is cleaned up you should not be able to see where the curve ends and the flat surface begins.

Nor should there be any alteration or indentation along the whole of the curved edge. In the softer wood and thinner pieces it is possible to get this rounded edge with the use of glasspaper.

Do not, however, "scrub" the work with a coarse grade first, or you will probably carry the curve too deep and then be unable to smooth it down with a finer grade paper. Use a medium grade in the palm of the hand, using the pad of



The stage in obtaining the rounded edge

the thumb to take the pressure along the edge of the wood.

If the material is thicker there are definite processes by which the wood is reduced and the curve gradually rounded off. The stages are shown by the drawing herewith.

First of all you take off a fairly wide angle at the corner. This is roughly at 45 degrees to both edges. Then you take another shaving along by splitting the difference of the angle and so make five surfaces. Unless the wood is very thick, these actual lines will not be very plainly marked,

and the drawing is purposely exaggerated to show them clearly.

These angles are produced by running a plane along carefully. Keep an even pressure with the tool, and run off at the far end without pushing it down and taking off too deep a shaving.

Across the Grain

If you are running across the grain do not push the plane off at the far end or you will burst the edge of the wood. This can be prevented by running the plane along a half or two-thirds of the edge, then turning the wood round and planing from the opposite end. A bench stop is very useful for this purpose, or you can set the material up in a vice.

Having done the planing satisfactorily, the fancy curve is brought about by the use of glass-paper as before mentioned. Take care that the curve does not overrun the pencil mark previously made, and watch your rubbing every now and then to see an even curve is obtained.

Of course, if you are undertaking the longer curve shown in the illustration you must draw the pencil line further back on the surface, and take a more acute angle with the plane iron. This is another of the operations where experience should be obtained before doing the actual work.

Practise on other Material

Whatever you do never experiment with the actual piece of work you are finishing. Surely it is always better to "waste" a little time on an odd piece of work seeing whether you can do the job properly, rather than ruin what would otherwise be a perfectly good model or article.

This will also get you accustomed to handling the particular tool in various operations, and the more you become conversant with their use, the easier it will be to complete the work satisfactorily.

The addition of small fittings is another of those jobs which apparently irritate many workers, because they take a little longer than imagined. The fixing of hinges or of knobs, or bolts and catches, always seems a "fiddling" job when one wants to complete the article as quickly as possible. At the same time, all these little additions will display to the onlooker whether the worker is capable and neat or whether he is slipshod and careless. You often see screws only half driven home, and with their heads projecting above the work.

Certain fittings have a countersunk hole, and in such cases a countersunk screw the right size should be obtained. Why spoil the look of it by adding a screw much larger so the head projects in an unsightly manner.

Round-head Screws

On the other hand, some of the brass fittings are so thin it is impossible to have a countersunk hole for the screw. Their metal surface is flat, and in these cases a round-headed screw is required. Do not, then, use a countersunk one or again you will have the head of the screw projecting above the actual material.

Moreover, use a screwdriver which will fit snugly

into the screw head. There is nothing more irritating than having a driver which really will not hold into the head and slips out every time you attempt to turn it. This is not the usual main trouble. That is more often due to the fact that the screw is put in without having previously made a hole for it.

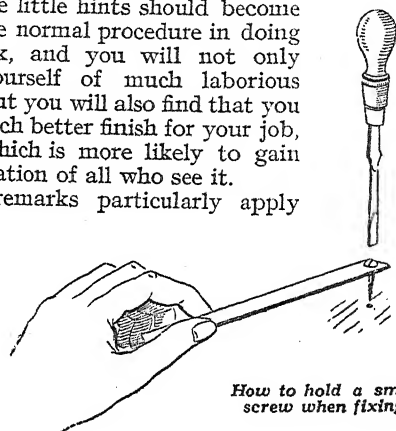
A Screwing Tip

The screws used in fretwork are often so tiny it is impossible to hold them with the fingers and screw them in at the same time. Whereas, by making a little hole with an awl or a pricker, you can get the screw to stand in position.

If it will not, slip it through a narrow strip of card—a postcard will do—and hold it in place until the driver has turned it almost home. Then you can pull away the card and turn the screw finally into place.

All these little hints should become part of the normal procedure in doing your work, and you will not only lighten yourself of much laborious trouble, but you will also find that you have a much better finish for your job, and one which is more likely to gain the admiration of all who see it.

These remarks particularly apply



How to hold a small screw when fixing

to the fixing of hinges, because too often you find that round-head screw has been used when a countersunk one was intended. The same applies to fitting on bolts inside doors or the catches and their accompanying escutcheons.

Mark out positions with pencil, bore the holes with a pricker and test out for a satisfactory fitting before you actually put the piece finally in place.

Fixing a Ball Catch

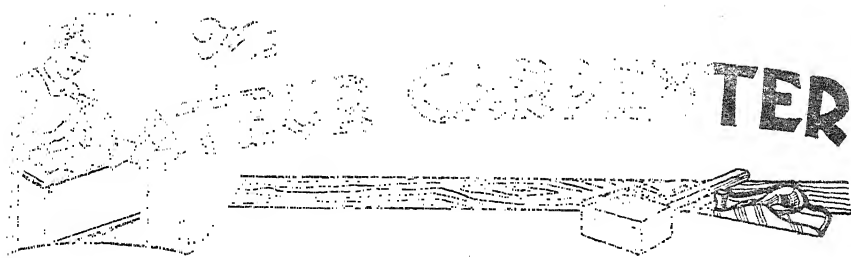
A ball catch is often used amongst these fittings to get a door to shut and hold. These catches should fit quite tightly into the wood and their hole be drilled for them with the appropriate bit.

Do not try and make it with a gimlet or file or something of that sort, because you are liable to split the wood or to make a ragged hole which will not grip the actual catch portion. The ball pieces wants hammering home tightly then the fellow piece put in the correct place for it to catch.

A mark can be made by putting a little ink on the ball then shutting the door so the ink makes it obvious where the catch will rest when in place.

Thus you can add the other piece of the catch so the hole surrounds the ink mark of the ball.

If the fitting is so tight that the brass adds thickness to prevent the door shutting, then you must countersink the little brass piece to overcome this.



HINTS ON MITRE JOINTS

HERE are some helpful notes on the construction of mitre joints, the asset of which is that they can be made (not in every form, however) without showing any end grain.

The plain mitre is the simplest form and is made by marking out as in Fig. 1 with a bevel set at 45 degrees. Saw on the cut line, and if your sawing is true and square, the joint will fit up true without any adjusting.

If there is no strain on the joint, it is quite satisfactory to glue it together and lay it flat on the bench to dry. If you wish to cramp the joint a special cramp is necessary. These corner cramps are supplied by Hobbies Ltd., and are advertised in Hobbies Handbook.

This joint can, however, be made stronger by "keying" it, which is done by making a kerf in the wood (see Fig. 2) and inserting veneer into the gap. If this is glued in well and is a tight fit, the strength of the joint is increased immensely.

Lapped Mitre

This is a combination of a mitre and lapped halving joint and is a most useful and fairly strong form. If necessary it can be strengthened by screwing through from the back. Fig. 3 shows this joint, and a description of the steps in procedure in marking out and cutting will be helpful.

For convenience, plane a length of wood to

2½ ins. by ¾ in. thick and mark out as shown in Fig. 4. Gauge round both ends to half the depth. Hold both pieces vertically in the vice and saw through the thickness and then across the mitre. Study carefully all the illustrations of this joint, else you may get confused and saw past the line,

Mortise and Tenon Mitre

This useful joint is shown in Fig. 5 and can be made quite easily if you mark it out correctly. Mark a line across the face of both pieces of wood at 45 degrees and then mark round the end with a mortise gauge set to the required measurements.

When sawing "A," fix it in the vice inclined at 45 degrees. Saw down to the shoulder and then saw across at 45 degrees on the sawing board.

When cutting the mortise, hold the wood vertically in vice, saw down on the inside of the line, then cut away most of the waste wood with a bow saw and finally chisel down to the line with a mortise chisel.

Lapped Bridle Joint

This joint is illustrated in Fig. 6, and is a very sound method of constructing a mitre joint. Mark out precisely the same as you did mortise and

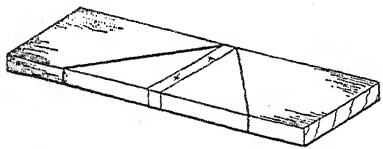


Fig. 1—Marking out

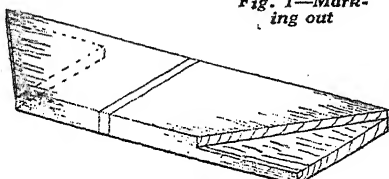


Fig. 4—Marked for a lap joint

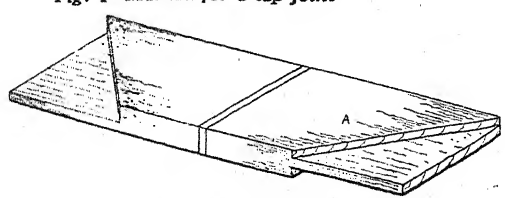


Fig. 7—Marking out for lapped bridle

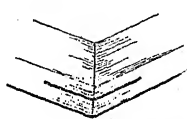


Fig. 2—Cut of a key

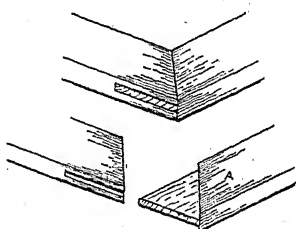


Fig. 5—Mortise and tenon mitre

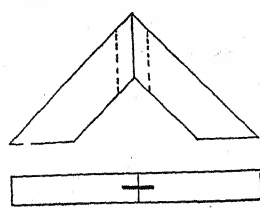


Fig. 8—Making and fitting a saw kerf for a keyed joint

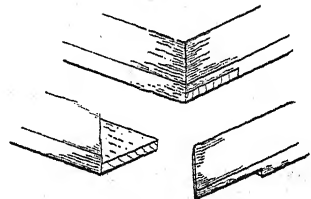


Fig. 3—The lapped joint

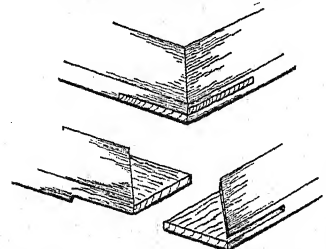
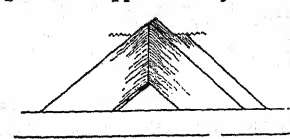


Fig. 6—The lapped bridle joint



tenon mitre, but the cut lines are slightly different—see Fig. 7.

You will find it is advisable to cut the open mortise before sawing the sloping face. This joint should be glued and if necessary screwed through from the back.

Test always with a try-square to assure a right angle and if necessary the sloping face can be trued up with a shoulder plane.

Key Mitre Joint

This is a simple method and is strong enough for light work. First make a plain mitre as is shown above and then gauge a line in the middle and along the sloping face.

Fix your wood in the vice with the gauge line uppermost and in a horizontal position, and saw

along the gauge line to a depth of $\frac{1}{2}$ in. Do this to both pieces of wood and get some veneer—the correct thickness—and insert in the saw cut as in diagram.

Cramp the joint together and when you are sure of a good fit, take apart, glue and cramp again till dry (see Fig. 8).

For light picture frames, etc., a “keyed” mitre joint is strong enough. If the frame is a heavy one, however, it may be necessary to use one of the stronger forms.

For doors or heavy panels, the mortise and tenon or bridle mitre joints are recommended. In all cases take great care over the marking out, because a slip in the making may spoil the whole frame.



BRITISH LEGION SHIELD or KEYRACK

THERE are many readers who have an interest in the British Legion in one form or another. In some cases they are actual members themselves, whilst in

others—in that of the younger readers—parents or friends may belong to this organisation.

In any case, we are sure the opportunity will be popular of making up a little replica of the Legion badge either in the form of a shield or for similar decoration in wood. The full size pattern is given on page 309 and one of its uses is illustrated here.

The badge is cut in any type of fretwood, and is on a shield crown $5\frac{1}{2}$ ins. wide, 7 ins. high. There are several means, too, of finishing it off and making it useful. One is shown here, in which hooks are used to provide a key rack.

Suggested Uses

Another suggestion is for it to be used at the Club Headquarters of the Legion where it can be fitted above a board for notices, letters or games.

Or again, by adding another piece of wood below a date calendar can be fitted, or even a pipe rack shelf added. The patterns are shown all in one so far as the badge and the shield are concerned, so it will be necessary in cutting them out to take the two pieces of paper apart.

Or, of course, the outline of the shield can be traced off and duplicated on to another piece of wood. The main point is that the shield itself is of $\frac{1}{2}$ in. or $\frac{3}{4}$ in. board, whilst the overlay of the replica of the badge is cut from thinner material such as $\frac{1}{4}$ in. or $3/16$ in.

If you wish to make a real job of it you can cut

it out in metal or even in some fancy composition such as ivory, xylonite, bakelite, etc. Use a sharp sawblade in cutting out the parts, because the frets are very open and the whole thing is likely to become damaged if you are not careful.

Do the interior work first, in order to leave a fairly large piece of material to handle in turning. Cut the centremost frets out when you begin, gradually working upwards to the edges.

The Wording

Be particularly careful to get the wording the right shape and slope, and that the letters are all the same height in their respective curves. Clean the overlay up with glasspaper both back and front, then glue it to the centre of the shield.

The two little circles shown with the patterns are for additional pieces of wood to provide the necessary thickness for the screw of the key hook.

These two discs should be $\frac{1}{2}$ in. thick, and are glued on where indicated by the dotted circles on the main pattern.

Suitable Colouring

If you are an artist at all, you might like to paint the badge the actual colour, and any member will be pleased to lend you an actual badge or a replica from which the necessary colours can be obtained. The background is of blue with gold and silver lettering and centre.

This colouring, by the way, should be done before the part is glued to the background, in order to make the work simpler. If you leave it until the two are fitted together, it will be awkward to get the edges coloured up without running the paint over on to the backboard.

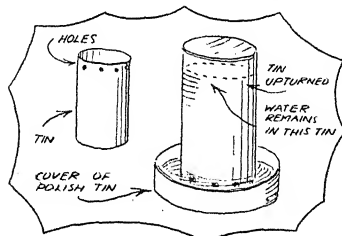
A good plan, too, is to paint the shield itself a jet black to make the overlay stand up more strongly upon it.

HINTS & TIPS WORTH KNOWING

For original Tips published the sender will receive two dozen Hobbies Fretsaw Blades. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

A Bird Trough

HERE is a useful tip for a bird trough. Obtain a small tin (a cocoa tin will do), and bore a few holes near the mouth. The cover of a polish tin (which



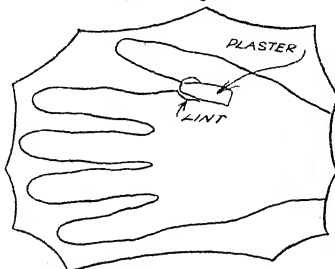
is larger) is got next. The cocoa tin is filled with water and upturned on to the cover. The water will just cover the holes and form a handy trough for birds or chickens.—(P. Murphy, Tramere).

Heat Spots Remover

FOR removing heat spots from polished furniture, take a cloth slightly damp with methylated spirits and have another cloth ready with furniture polish on. Put a pinch of salt on the stain and rub the cloth with the spirits on briskly over the stain and polish instantly. Care must be taken in using the spirits as too strong will damage the polished surface.—(C. Chivers, Bishbury).

Blister Preventer

WHEN I have a great deal of sawing to do, I find it advisable to pad between the thumb and index finger with a



few thicknesses of lint. Hold it in place with lin. wide plaster, and this will prevent any blister forming.—(L. Marfil, Lambeth).

Empty Cream Cartons

SAVE empty cream cartons for they are useful containers for home-made paste and warming tube glue when gluing fretwork articles. If the tube glue gets hard, half fill the carton with hot water and it will run freely.—(J. Park, Skipton).

Renovating French Polish

FOR cleaning and brightening a french-polished surface, pour a little vinegar on to a soft rag and rub the wood briskly for a few moments. The surface will then have retained its original shine. (F. Vidler, West Croydon).

SOLUTION TO LAST WEEK'S TENNIS X WORD

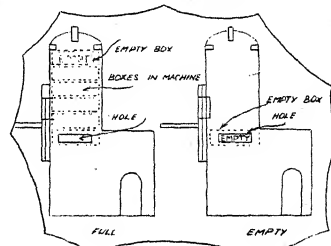
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Cleaning a Watch

HERE is a hint of value, to those whose clocks or watches have stopped through the need of cleansing. For a pocket watch get a glass tumbler and fill it one third with petrol. Then take off both the backs of the watch so the works and the face only are left. Now tie a piece of string round the winding handle and suspend it about an inch above the petrol and then take the string down the sides of the tumbler tie towards the bottom. Now take a piece of greaseproof paper and put it over the top taut and tie with thread or string around the sides of the tumbler. Leave the watch or clock suspending for about 12 hours.—(R. J. Sanderson, High Heaton).

Matchbox Delivery

FOR readers who have made the Matchbox Delivery Cabinet in 'Hobbies Weekly' dated Dec. 11th, 1937, here is a



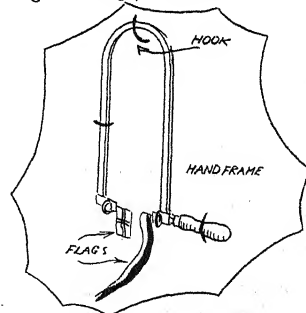
useful addition. Cut a small oblong hole in the door, level with bottom box in the machine. Now get an empty matchbox and paste a piece of white paper on the end. Write "Empty" on the paper and put box on top of the boxes in machine. When all the others have been taken out the empty one drops.—(D. Ross, Glasgow).

A Hammer Tip

WHEN hammering nails, rub the head of the hammer occasionally on a piece of emery cloth to give a better grip and prevent it from slipping.—(F. Jarvis, Coventry).

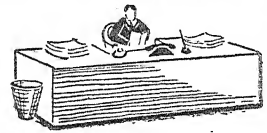
Flag Holder

I AM now making a model of the 'Mayflower' and whilst painting the flags, instead of holding



them in the clamps, I put them in my saw as the drawing shows. I find it gives a better grip and can paint more easily and better.—(S. Reynolds, Grays).

The EDITOR'S NOTES



THE Pencil Box illustrated earlier is a pleasing novelty anyone can make from the patterns on the centre pages. These take the place of the usual gift design, but form an excellent piece of work to undertake. It has the advantage that the parts are small and little wood is required. And when complete it is a useful article to keep on your desk or even to take to school, if you are a younger reader.

THERE is, too, such a large number who keep mice that I have had the article on making a cage done specially. It is a straightforward piece of work and I hope will fill a long felt want.

A READER in Oban asks whether we have had a design of a Cinema Projector. Well, although we have had no large design chart we certainly have had details how to make a Home Cinema. This was a clever little novelty lighted by a pocket flashlamp, which I found went very well indeed. It appeared in two issues—Oct. 30th and Nov. 13th, 1937 and both copies are obtainable post free, for 6d.

THE Exhibition of the Portsmouth Welfare Association was held in that town recently and many excellent pieces of hobby work were on view. Certificates and prizes were distributed by the Lady Mayoress and a very happy event concluded with a concert consisting of items rendered by various young people.

THE making of models of local buildings, or statues, or landmarks is a hobby which appeals to a great many, and I am often hearing from readers who have become enthusiastic in this sphere. More particularly it seems that replicas of churches make a strong appeal. They certainly create more interest when on view and can often be a useful means of raising funds for any particular

charity. The usual trouble is to obtain drawings, but there are often photographs and prints from which details can be obtained. A friend who is a draughtsman or an architect can get you out roughs, from which you can work up the necessary sizes for cutting in the actual parts.

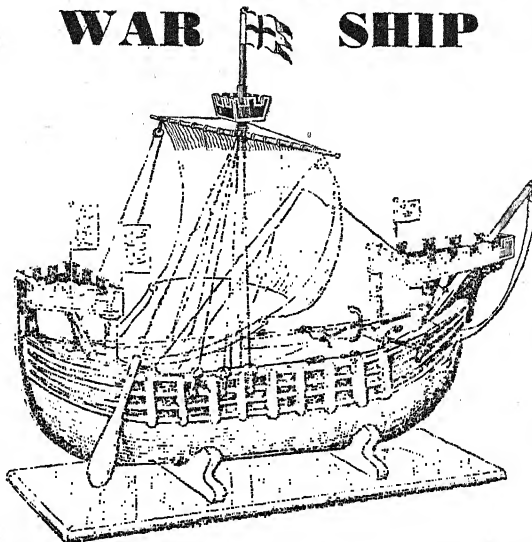
THE shape and tracing of a church lends itself to work with the fretsaw, whilst the effect of the arched doorways and stained glass window makes an appealing model. Particularly if you add cellophane behind the window frames and light up the interior with a flashlamp battery.

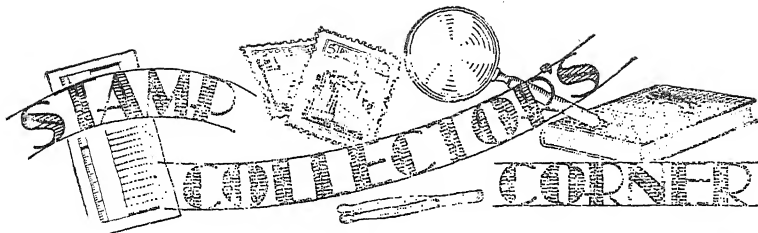
I was reading of such a model a little time ago—one which was really a splendid piece of work and correct in many interesting details. It was a copy of the St. Columba's Episcopal Church at Nairn, Scotland, made by P. W. Reid and completed after 2½ years' work. The model was complete with churchyard, grass and railings and measured 4ft. long. The interior is perfect, with seats, font and features of the Nave, whilst a novel thing about it is that the chancel is lighted and the organ plays when a penny is inserted in the slot. Really an excellent piece of work.

RAILWAYS have always a peculiar fascination for most fellows of all ages and whether it is the tiny OO Gauge, the large one which

runs you around in the Glasgow Exhibition, or the full size Flying Scotsman there is much of interest and wonderment. The list of various types, sizes and makes of railway engines would fill a good size book, and an informative hobby can be made by collecting pictures of various locomotives. There are various books on the subject, or you can obtain a complete range of photo postcards. These real photographs make a fascinating postcard album, particularly if you can add details about the loco from your own knowledge. A list of these pictures is obtainable from—Real Photographs Co., Cooper's Buildings, Church St., Liverpool, 1. The Editor

Large free design next week of this OLD ENGLISH WAR SHIP





A STAMP TOUR OF FRANCE

QUITE a number of readers have at one time or another sent up to Hobbies Weekly specimens of stamps to be identified, and they may have been a little surprised to learn that what they have sent up are not really postage stamps at all. Merely pieces of paper with the usual sticky substance on the back which are used for some purpose quite removed from postage.

A couple of examples will make this clear. First there is the stamp which is placed on patent medicines—it must be called a stamp although it is not a postage stamp. These are to ensure that the proper duty is paid on the sale of these substances. You all know them, the usual value is three pence for medicines which sell under 1/-; for higher priced drugs the stamp duty goes up.

Then secondly there is a class of stamp which is being increasingly used, and to illustrate this type we must mention the Autocheque method of paying for a holiday abroad.

Suppose you want to go to France (and presently we shall set out for such a journey), but let us say that you do not know any French and are rather troubled as to how you would ask for hotel accommodation.

Because the hotel people have to send these forms with the stamps attached to the Autocheque people and they make the cash payment.

Now let us start our trip round France. We can imagine that we have a number of these Autocheque stamps so that we shall not be troubled by cash except for incidental expenses.

Well, of course, there are a number of ways in which we can enter France. The best known is perhaps the route Dover to Calais, but as there is no illustration of either of these places, we shall go by a route which at least is mentioned on stamps. Let us, then, go from Southampton to Le Havre.

Although it is impossible to give a view of the latter town we can at least point to the 1920 2fr. stamp. This is called the 'Olivier Merson' type because it was designed by a man of that name. It is the long stamp, and readers can see the name faintly engraved on the framework in the bottom left-hand corner.

This stamp is quite a common one, but in 1929 it was overprinted 'Exposition Philatelique Le Havre 1929' and when so overprinted it is worth considerably more. So look out and see if you have one of these.

the pity of likely purchasers so that they would the more readily pay the excess in aid of the War Orphans.

Actually we shall have to travel a little back on our direction in order to go to Paris, but, as one would expect, there are more views of, and items in connection with, Paris than in connection with any other town in France.

The first mention pictorially of Paris is on the 1924 Olympic Games stamp which is illustrated. Here one sees a figure of France holding a statue of victory. In the background is the famous Pont Neuf which, in spite of its name, is the oldest of the 32 bridges which cross the Seine. It was commenced in 1578.

Also in the same stamp we see the Notre Dame, the famous cathedral in Paris begun in 1163 it was not finished for 200 years. It is a magnificent Gothic building standing on an island in the river. Its stained glass is only one of many notable features.

In the same year a set of stamps was issued to commemorate the International Exhibition of Modern Decorative Arts. One of this set is shown with a potter at work. Anyone who goes to Paris should certainly spend a day or so going to Sevres, which makes the most noted pottery ware in the world.

There you will see the most delicate pieces of work done, cups as thin as paper being made. And here is a tip—do not get too close to the guide who shows you round, if you do then you may have one of these cups passed to you to examine, before it has been baked, and if you can pass it back to the guide without breaking it you will be very clever.

It is so thin that when you handle it it falls to pieces. The writer was caught in this way and felt very silly when the delicate thing fell to pieces in his hand.

Another view of Paris is shown on the 2fr. of the 1929 set. This was a beautiful effort, and we shall have to mention the rest of this set as we progress round France.

(To be Continued)



The Arc de Triomphe

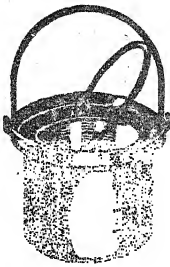
Pottery at Sevres

Pont Neuf and Notre Dame

You could do it in this way. Write to the Autocheque people and they will supply you with a series of forms, these will enable you to go to one of the hotels on their list and then when the bill comes instead of having to worry about talking over the price; you will have to stick on to the form you have got so many small stamps. These each have a value and then having put them on to the form you have done all the paying.

Since we are only on a pleasure trip round France, we are able to change our direction of travel just to please ourselves. So we will turn northwards and visit the battlefields, which are shown on the issue of 1917. It was the first pictorial issue which France undertook, and the set of eight stamps shows some war scenes. Others of them, however, (for instance the 50c. plus 50c.) illustrates the Lion of Belfort, and some are made-up pictures to stir

PICTURE FRAMING TOOLS



GLUE KETTLE

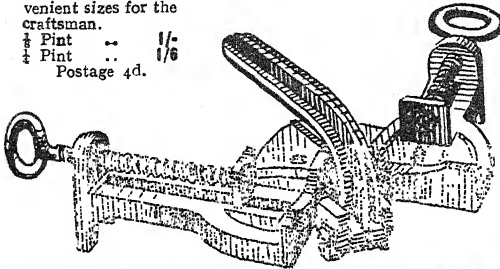
If you still prefer "glue-pot" glue, you will like this handy kettle. All steel in two convenient sizes for the craftsman.

1 Pint .. 1/-
2 Pint .. 1/6
Postage 4d.



MITRE BLOCKS

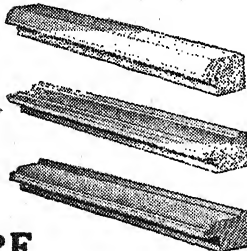
A hardwood block, 9in. long. Just the thing for small mouldings, price 9d. post 4d. Other mitre blocks with metal saw guides, 2/6 and 3/6. postage 6d.



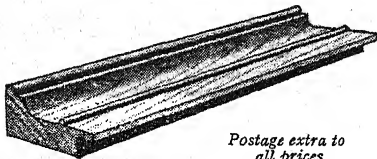
MITRE CUTTING TOOL AND CRAMP

The ideal mitre-cutting tool. The moulding is held in right and left hand cramps. The long metal saw guide ensures a clean accurate mitre. The No. 1 Tool takes mouldings up to 4 1/2 ins. wide and costs only 10/6, post 9d. The No. 2 cramp is of heavier construction all round, and takes moulding up to 5 1/2 ins. wide. Price 17/6, post 1/-

A few of the special picture frame mouldings supplied by Hobbies. These are in oak, 1 1/2 in. wide and cost only 1 1/2 d. per ft.

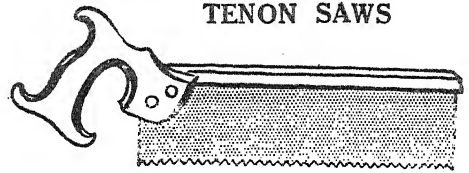


PICTURE FRAME MOULDING



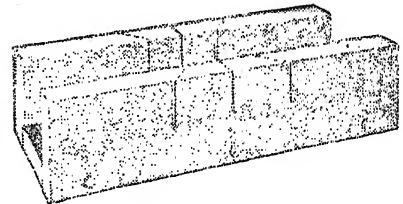
Postage extra to all prices.

An attractive Oak Moulding in three sizes. 1in. wide 2d. per ft. 1 1/2 ins. 3d. 2ins. 3 1/2 d. per ft.



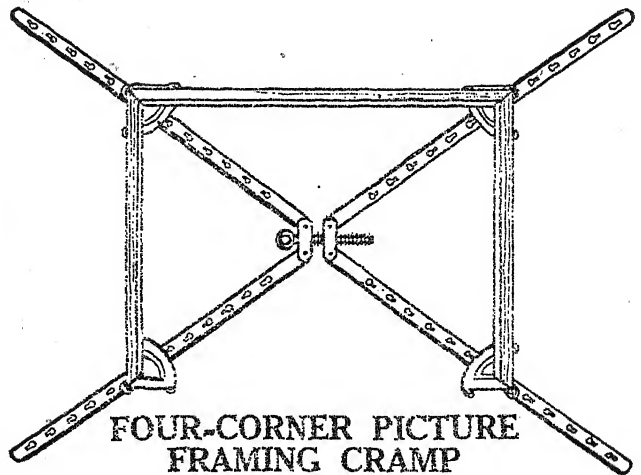
TENON SAWS

For the small mitre block a roin. saw is required. This with iron back costs only 2/6, whilst a 12in. is 2/9. A 14in. saw of superior quality suitable for the mitre cramp costs 5/-, postage 6d. on each.



MITRE BOX

The moulding is laid in the trough between the sides. This tool can be thoroughly recommended. In selected hardwood. Price 2/6, post 6d.



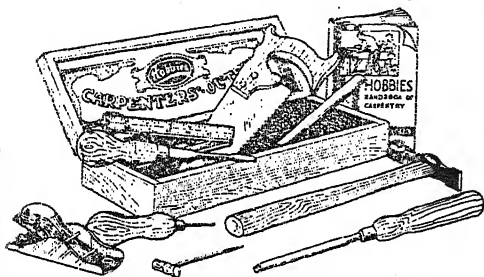
FOUR-CORNER PICTURE FRAMING CRAMP

With a tool like this you can glue up all four corners at once. The pressure is applied by one central screw, so that it is equally distributed to each corner. In two sizes. No. 1 for frames up to 38 by 26ins. Price 13/6. No. 2 for frames up to 52 by 33ins. Price 17/6. Postage 1/- on either.

You can buy all your requirements for Picture Framing from Hobbies Branches and Agents, or direct from Hobbies Limited, Dereham, Norfolk.

Carpentry Sets You can Trust!

Hobbies Carpentry Sets contain REAL tools. They should not be confused with the "toy-shop" variety. You can trust Hobbies to give you good value—and a square deal.

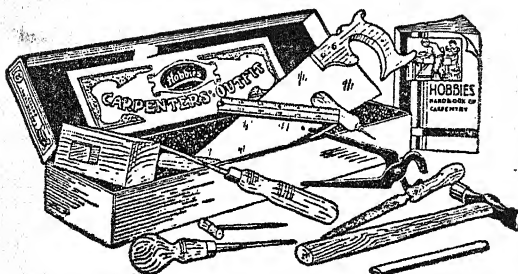


No. 1 CARPENTRY SET

What a difference from the ordinary "toy-shop" sets! Here are tools which are usually found only in much higher priced outfits.

10/-

Post 7d.



No. 2 CARPENTRY SET

Has a wider range of tools than the No. 1. Not another tool could be added for the money, otherwise the quality would suffer. A 16in. handsaw and ten other tools make this set a real worth while investment. A 64-page book of instructions is also included.

17/6

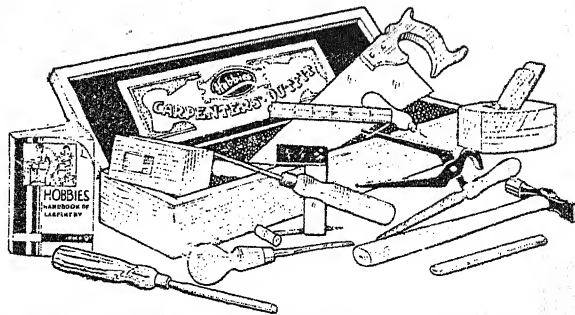
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No. 3 CARPENTRY SET

How much better to buy a good set than one filled with cheap tools which in most cases are utterly useless for the job intended. Here then, is a comprehensive outfit including 18in. handsaw, smoothing plane, gouge and eleven other tools. And, of course, an instruction handbook of 64 pages.

30/-

Post 1/-



Look for this name
on all you buy.

ALL IN WOODEN BOXES

AN INVESTMENT—

Hobbies Carpentry Sets are an investment in good tools . . . tools that are a delight to use. Buy from Hobbies own branches, or direct from Hobbies Ltd., Dereham.

Hobbies

WEEKLY

A MODEL OLD ENGLISH WARSHIP



LARGE
FREE
DESIGN
SHEET
INSIDE

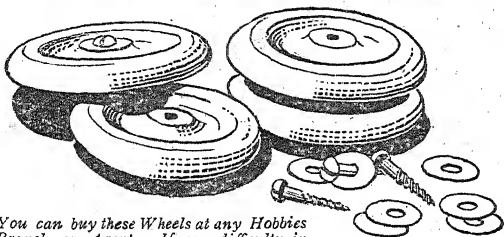
July 2nd. 1938

2^D

Vol. 86. No. 2228

THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL

Big Value in Wooden Wheels



You can buy these Wheels at any Hobbies Branch or Agent. If any difficulty in obtaining send your order direct to Hobbies Limited, Dereham, Norfolk.

Shapely wheels for toy trucks, sand carts, small barrows, etc. Well made and beautifully finished in strong hardwood. The centre is sunk and painted a bright red.

Prices quoted do not include return postage.

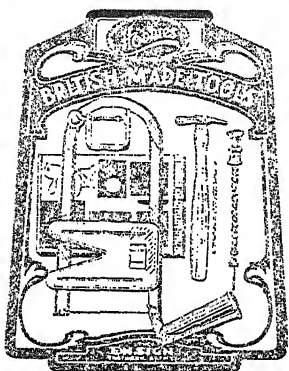
| PLAIN No. 604 | | TYRED No. 605 | |
|------------------|------------------|-----------------|--|
| 1½ in. 3d. for 4 | 2½ in. 6d. for 4 | 4 in. 2/6 for 4 | |
| 2 in. 4d. for 4 | 3½ in. 1/- for 4 | 5 in. 3/- for 4 | |
| 2½ in. 5d. for 4 | 4 in. 1/6 for 4 | | |
| | 5 in. 2/- for 4 | | |

4 suitable Screws and 8 washers, price 3d.

HOBBIES LIMITED - DEREHAM

Fretwork Outfits worth having!

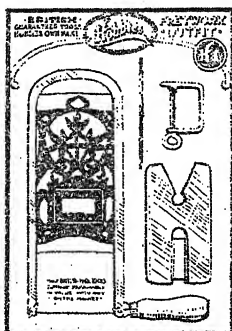
There is something special about every Hobbies set of tools to make them superior to any others. They are thoroughly reliable and sold under a guarantee so you get them replaced should there be any trouble. Every tool is British and each outfit has a leaflet or booklet of instructions for the beginner. There are sets from 1/6 to 21/- to suit all pockets.



The Ensign set of Fretwork Tools, design and instructions. Useful range, with wood complete.
5/9
Post 6d.

Illustrated list FREE from Hobbies Ltd., Dereham, or any of their official branches. Send for the nearest address.

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Branches in London, Glasgow, Manchester, Birmingham, Leeds, Sheffield, Hull and Southampton, Agencies everywhere.



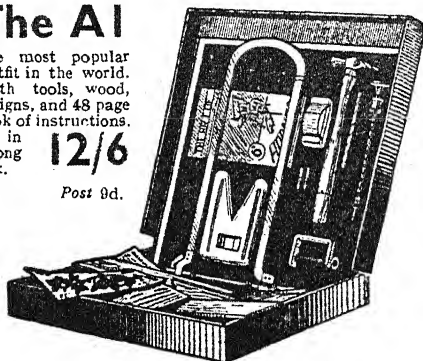
Two cheap cards of fretwork tools. The H1, as illustrated, is 1/6 and the H2, 2/6. Postage 6d. extra on either. Hurry for these.

The A1

The most popular Outfit in the world. With tools, wood, designs, and 48 page book of instructions. All in strong box.

12/6

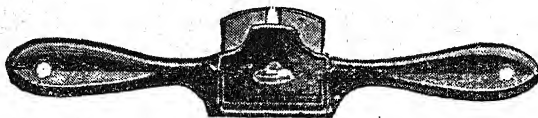
Post 9d.



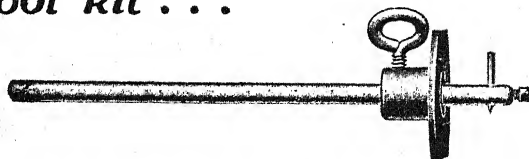
Should be in every tool kit...

Don't guess at the position of mortices. Use a marking gauge—it's the only way to ensure a first-class job.

The spokeshave is useful for shaping and rounding surfaces. To the model yacht builder it is an indispensable tool.



Buy from any Hobbies branch or agent or direct from Hobbies Limited, Dereham, Norfolk.



SPOKESHAVE

An all-metal tool with simple blade adjustment. The handles are shaped for comfort. A first-class tool at a low price.
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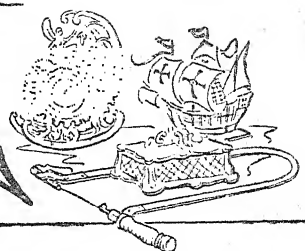
MARKING GAUGE

Unlike the ordinary marking gauge, this one is made throughout of metal. It is quick in action and has no parts likely to get out of order.
1/6
Post 3d.



Hobbies

WEEKLY



July 2nd. 1938

Vol. 86. No. 2228

OLD ENGLISH WARSHIP

WE are sure a very large proportion of our readers will be delighted to see another one of those old English ships which are so popular. We have already had some of the well-known ones such as the "Elizabeth Jonas," the "Golden Hind," "Mayflower," etc., now we have a Warship of the time of King John.

As usual, too, it is difficult to be strictly accurate in these things because so little is known in drawings or writings of the boats themselves. The peculiarity of the fore and aft raised platform will be seen.

Historical Details

These were added to ordinary ships at first for fighting purposes, but when King John built his own naval boats they were part of the structure. The model is of the old 13th century type but later on the steering paddle shown on the starboard quarter was replaced by a rudder.

The peculiar type of flag at the top is known as a confanon or tailed flag, and bore the cross of George. The boat itself was quite small, being 180 tons with a 42ft. hull.

We have followed as nearly as possible the prototype, but naturally cut out a number of the details which would only overload such a small model as this. Ours when complete is 12ins. long, 11½ins. high, and the patterns on the sheet provide not only for the boat itself but also for a suitable base upon which it can be stood.

The construction is simple, and the whole thing can be finished off with

Hobbies matt enamel which provides a flat surface in the various colours required.

The whole model costs very little to make, and it is certainly worth while purchasing the special parcel of wood. This contains all the boards needed, whilst the fittings include parchment paper for the sail, two anchors, the necessary small pulley blocks and sufficient cord for all the rigging.

The construction is quite straightforward, and all the cutting can be done with a fretsaw. Apart from the cutting there is the question of shaping the hull, and if the sectional drawings are followed this should be a straightforward matter.

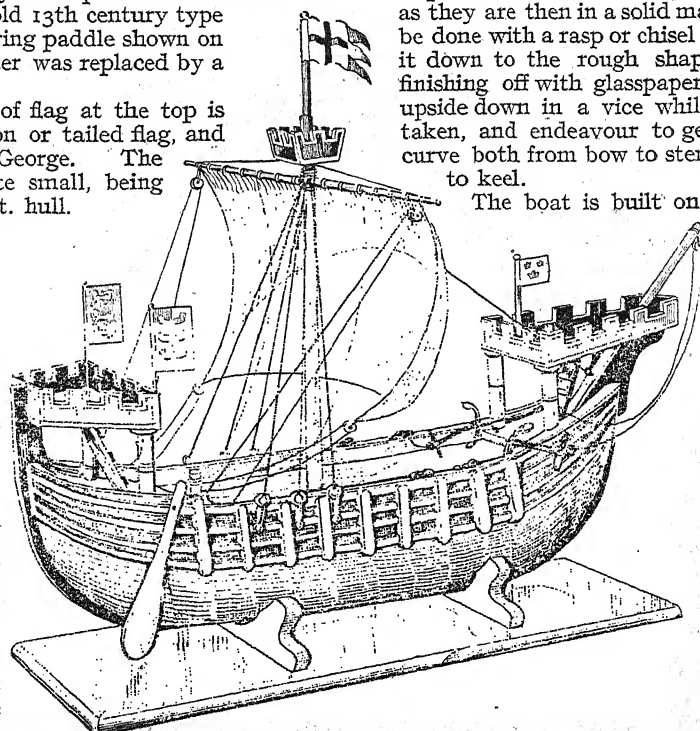
Shaping the Hull

The parts of the hull are glued together, and as they are then in a solid mass, shaping must be done with a rasp or chisel gradually turning it down to the rough shape required, and finishing off with glasspaper. Hold the hull upside down in a vice whilst this is undertaken, and endeavour to get a nice sweeping curve both from bow to stern, and from deck to keel.

The boat is built on a centre piece shown as the keel portion, and the dotted lines on the pattern indicate where the cross pieces come. The deck is glued on and fits over the open halving joint at bow and stern.

Beneath this deck are put the pieces A, B and C, the whole thing then being shaped up to form the curve of the hull.

Ornamental

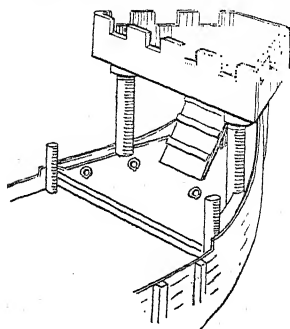


sides providing bulwarks also are fitted by means of two overlays, one a solid piece and the other a fretted portion. Bend the plywood gradually to the shape of the hull so the bulwarks to the main deck are about $\frac{1}{4}$ in. above. Two blocks are provided at the bow end for the foundation for these side pieces, and another is cut for the stern deck.

The bow block is a thick piece which tapers from $\frac{1}{4}$ in. at the front end to $\frac{3}{8}$ in. at the back. The stern block has to be tapered in a similar way inwards, and over it the sloping $\frac{1}{4}$ in. thick deck is glued. At the bow and stern are raised the fighting castles previously mentioned, and the shape of them can be seen from the details herewith.

The Fighting Platforms

They are raised on short pieces of dowelling forming posts, the bottom end of which must be



Above is a detail of the fighting platform with climbing ladder. Note bollards and rigging eyelets

cut with a slight taper to take the slope of the deck. These posts actually stand in the small piece cut out from the top to the sides.

These thin pieces are glued flat along the sides to form an apparent thickness of the hull. The castles are made up with a front, back and two sides glued on to the floor. The two sides cover the whole length and the front and back are glued between.

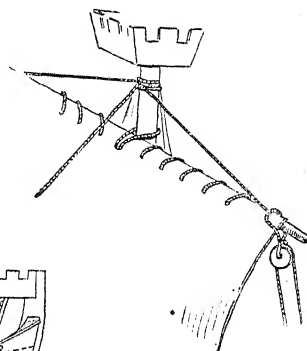
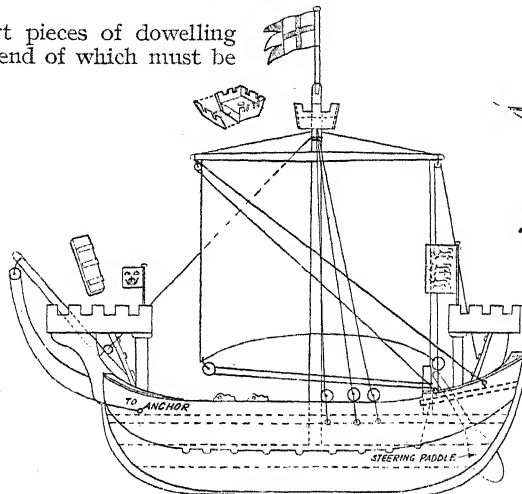
The latter, too, must be chamfered to fit in. The fighting castle at the stern rests on a cut-out shelf on the stern post, and stands in two pillars previously mentioned which are capped by little round support pieces. The communicating ladder is formed between the deck and the castle from a tiny piece of wood across which the steps are glued on.

The castle at the bow end is treated in a similar way, but in this case a hole for the bowsprit is provided

to the right-hand side of the centre. Through this hole a piece of dowelling forming the bowsprit passes, to be sunk into a similar hole recessed in the deck.

For this platform another ladder is provided, and this time it rests against the slope cut into the keel as can be seen from the diagrams herewith. The mast is made from dowelling tapered down towards the top, then dropped and glued into the deck about $\frac{1}{4}$ in.

The top end of the mast— $\frac{1}{4}$ in. downwards—is glued the centre castle. This is made up of $\frac{1}{4}$ in. block with four thin sides. The edges of the block must be tapered slightly so the sides slope outwards and the hole cut in the block should not



On the left is detail of construction with sail and running lines.

Above is detail of mast and sail fitting.

be made until you have tapered the mast down and know exactly what the diameter is. The top of the mast is rounded, then a slight hole sunk in it to take the flag pole, a detail of which is given on the sheet.

Flags

Various flags have to be added, and two short bollards of dowelling are glued into the aft deck close to the side. The sail itself is the shape shown

on the sheet, and should be cut out from a piece of parchment. The flags can also be cut from the same material.

The cross spar for the sail tapers towards each end, and the material itself is glued to one edge and there bound round and round as shown in the detail. The flat side view herewith of the boat shows the position of the running lines and pulley blocks, although it must be

CONTENTS

GIFT DESIGN—Old English Warship

| | |
|----------------------------------|-----|
| Old English Warship | 313 |
| Photographic Competition Result | 315 |
| Bow and Arrow Game | 316 |
| Garden Incinerator | 317 |
| Garden Swing | 318 |
| Aeronautical Cross Word Puzzle | 319 |
| Model Aircraft Notes | 320 |
| Gardening Notes | 321 |
| Binding Hobbies Weekly | 323 |
| Hobbies Correspondence Club | 324 |
| Improve your Photographic Prints | 325 |
| Lady's Workbox in Wood | 329 |
| Model Castings for Model Ships | 330 |
| Notes about Metronomes | 331 |
| Editor's Notes | 333 |
| Fun and Puzzle Page | 334 |

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

understood the sail actually hangs across the hull, and not fore and aft as shown.

The hull itself is painted a dull brown with buff for the overlays on the edge. Red and gold outlines can be provided for the castles, and the deck lined for planking by drawing pencil lines down about 3/16in. apart.

In order to help the reader further in getting the correct colouring, we can supply a chart showing the details of the outlines, and the colours to use. This can be obtained for 2d. post free from the Editor.

The base is built up of a piece of wood 10ins. by 4ins. with cross supports glued on 3ins. from either end. The shape of the supports is shown and the finished base is treated with stain and polish or varnish.

MATERIAL SUPPLIED

Fretwood.—For making this model ship, we supply a parcel of satin walnut, deal and plywood, also round rod for mast, spars, etc., 2/- post free 2/6.

Fittings.—Sheet parchment paper 6ins. by 6ins., two No. 19 anchors, snood cord, and 18 small turned wood pulleys and 12 screw eyes 1/8 set, post free 1/11.

Complete set wood and fittings 4/- post paid.

OUR PHOTO COMPETITION WINNERS

IT was good to see such a number of competitors in the first of the series for Animals, Flowers and Figures. We hope that each month will see an increasing pile of parcels and envelopes.

The work on the whole was fairly good, but we are of the opinion that if more of you were doing your own printing you would make better results and avoid certain little failings which, although they are not of any great importance, yet they do

in a footbath is what may be termed a 'happy snap' and it is because of the smiling faces that it won the award. It is good technically but so are some of the others. There were two who were Highly Commended. A. Gregory for his snap of "A Deer"; but what a pity to cut off the top of the antlers. J. S. MacKelvie with "A Flower Study." A good attempt but wanted a little more care in the focussing. It should also have been in the centre and horizontal, then you would have got it in.

Senior Section

So far as the Senior Section entry is concerned, four competitors in this class ran each other very close. The First Prize, however, must go to G. Llewelyn Lloyd, of Southport for "Junior Craftsman." It is a nice study and the deep interest which the boy is taking in his work is well displayed. So often this type is spoilt because the model is camera conscious. The second prize went to A. J. Budd of Harrow, for "A Spray of Orchids."

The Highly Commended went to A. West, for "The Cooling Stream." This is a very charming pastoral scene, it would look better as an enlargement. L. Holmes' picture of "Bears" are very good, especially the two bears. E. Clark, "Pease Burn." Good, but why did you cut the fore feet off the leading horse?



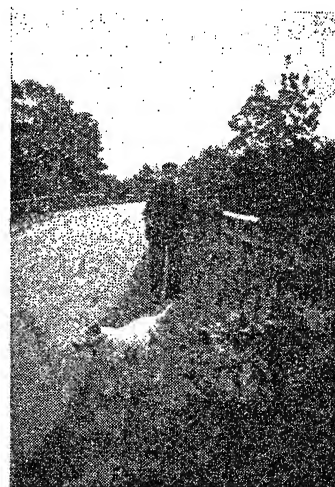
"Junior Craftsman" secured first prize

prevent the prints reaching top standard. In both the senior and junior sections it would have been easier to judge if the number of prizes had been four instead of two. By this, you see, there were several that reached a certain merit, but not any of outstanding quality to walk away with the prizes.

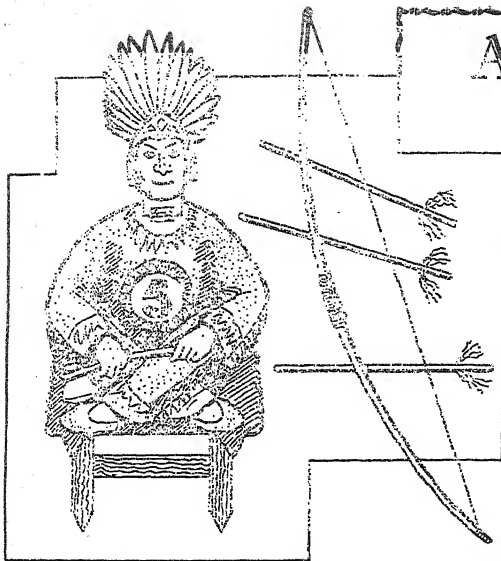
Junior Section

In the Junior Section the first prize went to V. Poole, of Ruislip. There is something about this picture of "The Old Gent and his Dog" which indicates a good effort to make a picture of a common-or-garden subject. It would have been better if the dog had been closer to his master or had his head turned away from the road, but we cannot always get what we want.

The second prize was awarded Miss E. Hanmer, of Whitchurch. This snap of two young friends



The Junior Section Prize winner



A NOVEL BOW AND ARROW GAME

IT'S great to be a marksman with bow and arrows. You can become quite expert by making this new "injun" game. All you have to do is to hit him on the tummy with the arrows from a distance of 12 feet or more away.

Chief Squatting Cow won't mind—in fact, when you hit him good and hard, he will acknowledge it by bowing his head solemnly and, at the same time, indicate that you've scored 5 points. His head, you see, is hinged to his body at the neck.

A Mechanical Game

There is a big, circular hole in the stomach which is covered by a numbered plate which is attached to the head at the back, so by striking the plate, the head inclines forward in proper Redskin style.

The statuette will take all you can give it, by the way, and should last for years. This is mainly due to the harmless arrows, same being "tipped" with roundhead rubber toes such as is supplied by Hobbies Ltd. The statuette can be set up indoors or stuck up in a field.

The Statuette Target

To make the statuette target, obtain a piece of 1/4 in. birch plywood or cheap pine stuff 28 ins. by 15 ins. and mark out the squares and shape given at Fig. 1. Cut to the outlines with a fretsaw or

MATERIAL REQUIRED

- 1 piece birch plywood 28 ins. by 15 ins. by 1/4 in.
- 1 indicator piece (cut from waste of above).
- 2 strut legs 16 ins. by 1 1/2 ins. by 3/4 in.
- 1 strut-cross-rail 11 ins. by 1 1/2 ins. by 3/4 in.
- 2 strut blocks 3 ins. by 1 1/2 ins. by 3/4 in.
- 2 strut hinges 1 1/2 ins. long.
- 1 target hinge 2 1/2 ins. long.
- 3 arrow dowels 16 ins. by 1/4 in. diam.
- 3 rubbed (spiked) toes.
- 1 piece cane 36 ins. by about 1/2 in. diam.

keyhole saw. The head is removed at the base of the neck (see Fig. 4) and the only "cut out" is the circular indicator aperture.

The indicator disc and arm is cut from the waste of the statuette to the size and shape at Fig. 2. Glue and screw it to the head as shown, but see that the indicator plate is evenly over the aperture in the statuette before doing so by setting the head in place.

It could be attached at this juncture with the hinge. This can be either 2 ins. long or 2 1/2 ins. long. Use 3/4 in. screws and don't worry if the points project as these can be easily filed away.

The Back Strut Frame

The strut frame should be made from 3/4 in. thick deal laths 1 1/2 ins. wide. Point two 16 in. lengths and half-lap the 11 in. long cross-rail about 4 1/2 ins. from the pointed ends. Glue and screw the rail in position.

Hinge blocks (3 ins. by 1 1/2 ins. by 3/4 in.) are attached to the back of the statuette back and the strut legs screwed to same with 1 1/2 in. long hinges (see Fig. 2).

A piece of cord could be threaded through two holes (one in the centre of the cross-rail and statuette base) and knotted at the ends to hold the strut so the target sits perfectly upright on the ground.

The target must not lean forward—even slightly—otherwise the head will topple. The target should, if anything, lean slightly backwards. The stay cord can be knotted to give the correct angle supplemented by the strut.

The Bow and Arrows

The bow is a simple, pliable affair. All you require is a 2d. ashplant or school cane and some

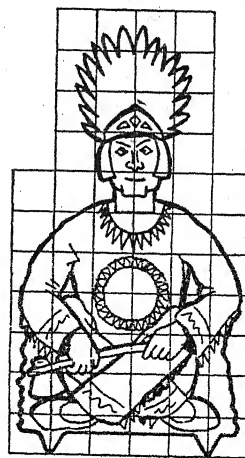


Fig. 1—Outline of figure in 2 1/2 in. squares

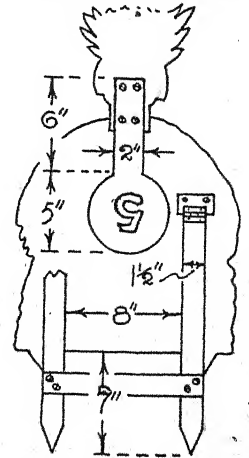


Fig. 2—A back view with disc and frame

twine. When purchasing the cane, ask for a fairly thick one; the thin ones are just a bit on the delicate side.

Cut the cane to about 3ft. long, this enabling you to remove the bent handle. Give the cane a good rubbing with coarse and fine glasspaper, then bind it in the centre with twine, the ends being glued around.

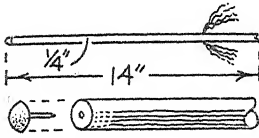


Fig. 3—Arrow details

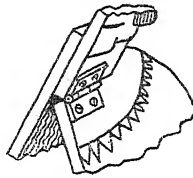


Fig. 4—Half section of head and neck at the hinge

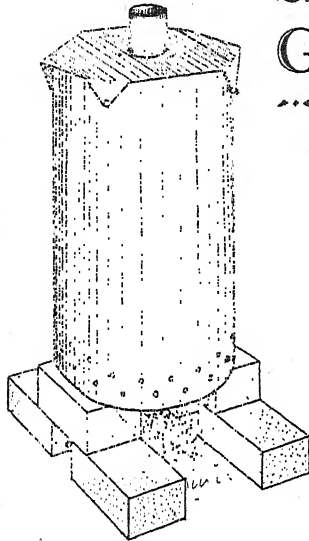
The catapulting string is knotted at the ends and inserted in saw kerfs cut about $\frac{1}{2}$ in. deep at the cane ends. The cord should be about 3ins.

or 4ins. less than the length of the cane so as to draw the latter into shape and give sufficient tension. Strong thread is bound around the cane and string at the ends and secured with glue.

The Arrows

The arrows are lengths of $\frac{1}{4}$ in. dowelling 14ins. to 16ins. long. Drive the rubber toes into the ends (see Fig. 3) and cut or file V-grooves at the opposite ends. The "feathers" are nothing more than pieces of soft, white cord glued in holes in the arrow shafts and "combed out" to catch the wind. The bow and arrows could be lightly varnished.

The statuette target, however, should be finished in suitable enamel colours to look something similar as per illustration. Any number of players can take part in the game. Each could be given ten alternate turns in which to score the highest number of points.



GARDEN INCINERATOR

THIS is a most necessary article for all gardeners as it burns house refuse, weeds, cabbage stalks, what you like as long as the stuff is combustible. The ashes left are a valuable fertiliser, so the incinerator fulfils a double purpose — burns the rubbish and enriches the soil. It is quite easy

to make an incinerator from materials to be bought very cheaply.

The combustion chamber in the one sketched is a 10 gallon oil drum. You can buy one of these from any garage for a small sum. Having got the drum, cut out the top with a cold chisel.

Turn over and with a sharp pointed piece of steel—tang end of a file, or something similar—pierce a series of holes in the bottom, as in Fig. 1.

Do not use a small file for such a job, as it is likely to snap. If a large one is not available, a sharp pointed poker will serve. Having pierced the bottom, make two rows of holes round the sides, as seen in the perspective view.

Lid and Chimney

A lid is desirable, it helps to slow down combustion and prevents burning stuff being blown about the garden, as may happen in a strong wind.

If nothing better is to hand, get a piece of sheet iron and a few inches of piping, stove flue pipe for example. These can generally be picked up for a trifle in a builder's yard.

About 1ft. of pipe will be enough, this should have three pieces slit up from the bottom and bent out at right angles, as in Fig. 2.

Cut the sheet metal for the lid to a square, a trifle larger than the diameter of the oil drum, and chisel out a hole in the centre large enough to admit the pipe.

Push the pipe in from underneath, punch holes in the flanges and lid, and fix the pipe with bifurcated rivets. See Fig. 3, an underside view of the lid. The corners of the lid should be bent over to keep it in place when covering the drum.

Bricks for Foundation

For mounting the incinerator, you can utilise a few bricks, spaced as in the perspective view. This allows a current of air to enter in any direction, so a draught is obtained whichever way the wind blows.

Unless you are burning dry, easily combustible stuff, it is well to give the incinerator a fair start with paper and a few sticks of wood.

When this is well alight, pile on the driest of the refuse and let it get going before adding any damp stuff. Give the incinerator an occasional shake to free the holes from clogging ashes, and the contents a stir up if on the damp side.

Naturally combustion will be greatly helped if the refuse is allowed to dry as much as possible before feeding the incinerator.

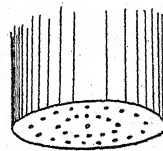


Fig. 1—Holes in the bottom

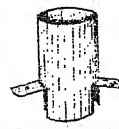


Fig. 2—The chimney

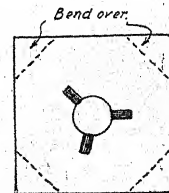
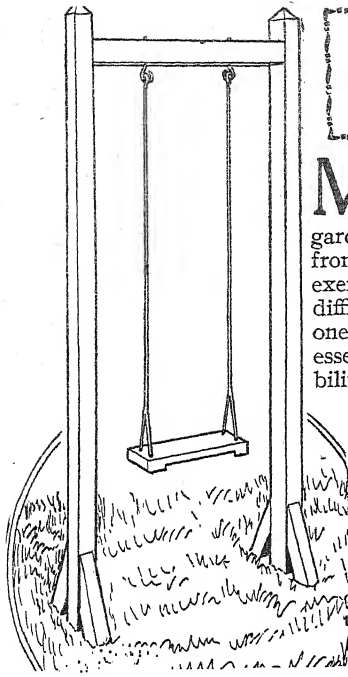


Fig. 3—The lid shape and bent corners



A GARDEN SWING

MANY a jolly bit of fun can be got from a garden swing, apart from its value as an exerciser. It is not a difficult job to erect one either, the main essentials being stability and structural strength.

Some people are apt to think that two posts and a cross bar will serve for a swing, it looks so simple, but there is a little more to it than that. There is a safety factor to

be considered, as one can get a nasty fall if a breakage occurs.

For the swing proposed, some suitable dimensions are given in Figs. 1 and 2. For the timbers, use 3ins. by 4ins. sound red deal, except for the ground rails, these can be 2ins. by 4ins. stuff.

The Cross Rail

At a distance of 6ins. from the top cut a mortise in each post, 1½ins. by 4ins. long and 1in. deep, for the cross bar. Cut the ground rails and the struts next. The latter are first marked off for length, then the top ends are sawn across at an angle of 30 degrees.

Mark off the bottom ends at an angle of 60 degrees, then ¾in. lower down, draw a second line across to meet the first. Saw across on this second line, this will leave a short bit below the 60 degrees angle line, as at A in Fig. 3.

On the ground rails, at a distance of 3ins. from each end, chisel out a shallow sloping recess ¾in. deep at one end and as wide as the wood used for the strut for this piece A to bed in.

Fixing the Uprights

The section through this joint is shown at Fig. 3 and will help to make it plain. Now coat the ground rails, struts and posts (lower part only), with creosote, especially the cut ends.

When dry, nail the posts to the ground rails, in the centre, and the struts to ground rails and posts. Use long cut iron nails for nailing.

The cross bar is cut 3ft. 2ins. long, tenons being cut each end to fit the mortises in the posts. Glue these in and in the posts drive a coach screw to go right in the centre of each tenon to draw the joint tight. (See sectional view Fig. 4).

Preliminary holes for these screws must be bored first. The tops of the posts are best bevelled sharply to a point to allow any rain to flow off, or fitted with turned finials if a more artistic finish is desired.

Nail a batten temporarily across the posts, near the bottom, to keep them the right distance apart until erection.

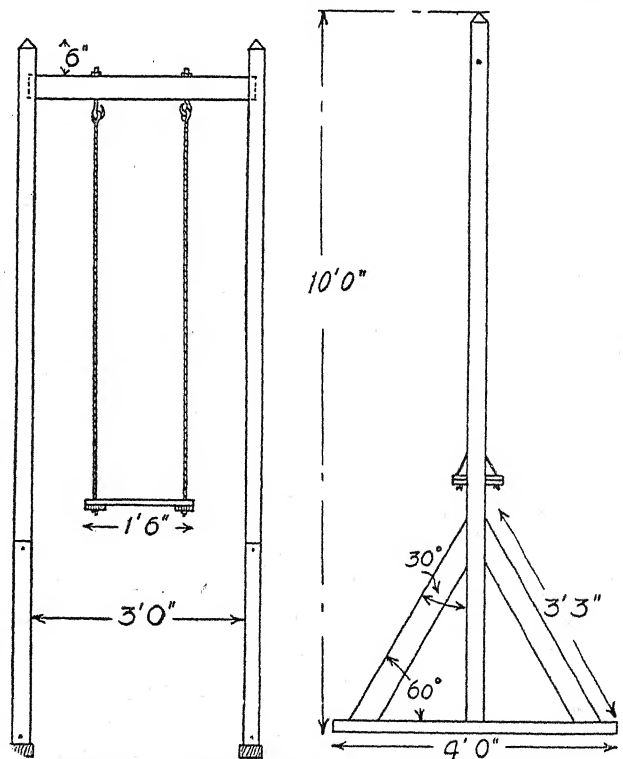
The Seat Fitting

The seat is a length of 8in. wide board, 1in. thick or more. Round the front and back edges neatly, and fix underneath, with glue and screws, two battens of 1in. by 3in. stuff.

Through seat and battens bore the holes for the ropes, two at each end, and smooth off the sharp edges of the holes to avoid fraying the ropes.

A doubled rope is used each side. Fold the ropes in two and in the centre place a galvanised iron thimble, as in Fig. 5. Just below the thimble bind the ropes together with a tarred twine.

Cut each pair of ropes to an even length, insert



Figs. 1 and 2—Front and side view with dimensional details

GARDENING IN JULY

The Vegetable Plot

IF there is land in the vegetable plot which has been cleared of peas or early potatoes it is a good plan to make use of it at once. A sowing of an early variety of short-horn carrots may be made to provide a supply of nice tender young roots in the autumn. With the carrots it is a good plan to mix a little radish seed.

Garden beet may be sown on a part of the plot as may also dwarf beans or turnips, or a last sowing of summer spinach may be made. If preferred a second crop of potatoes may at once be planted on land from which earlies have been lifted.

If these are planted the seed potatoes should be put in between what were the potato rows with the earlies, so that although planted on the same soil they occupy new ground. This second crop will provide delicious young new potatoes for use in the autumn.

Sow for Winter

Celery for early supplies should be freely watered and it is a good plan to water the base of the plants with liquid manure now and again if this can be obtained.

Parsley may be sown for winter use during the first ten days of the month.

From the 10th to the 21st of July is the best time to sow spring cabbage, that is when weather conditions are ordinary at this time. A bad patch of weather may make it advisable to delay sowing for a few days. An open position should be chosen and the seed should be sown thinly. If the soil is very light the seed bed should be well firmed.

Among the Flowers

FLAG Irises may be successfully lifted and divided soon after the flowering season. Deep planting is a mistake which will lead to poor results.

July is the best month for layering carnations. It is much easier to increase border carnations by this means than it is by cuttings. Plants on which there are a number of strong growths should be picked out, and it does not matter a great deal if these are in flower.

How to Layer

Leaves on shoots to be layered should be stripped off to within four pairs of the top. Just beneath a joint on the bare part of the stem a slit is cut in the stem with a sharp knife. Take care not to cut too far through the stem when cutting this slit. A piece of match stalk is then inserted in the slit to keep it open.

The shoot is next bent at the slit joint and pressed into a hollow where some soil has been scraped away near the plant. The shoot is next firmly pegged in position and covered with about

half inch of soil. The layered plants should then be given a good watering and if the weather is dry further waterings should be given at regular intervals.

When the layers are well rooted after about six weeks they should be separated from the parent plant by cutting through the shoot on the side nearest the old plant and they may be planted in the positions they are to occupy in the border in the autumn.

Budding Briars

Another interesting job for July is that of budding briars or poor kinds of roses with choice varieties. Those who obtained briars last autumn will want to know how to do this.

One or two branches are allowed to remain on the briar, any others being removed. These branches are cut back to within four inches of the main stem and any shoots making their appearance on the stem of the briar are rubbed off.

Suitable Shoots

Buds are best taken from shoots which have flowered, the buds will be found at the point where a leaf joins the shoot, when ready they will be rather plump and usually of a reddish colour, a sharp knife is used to separate the bud from the shoot, with the bud is cut a shield shaped piece of bark from the shoot about an inch or so in length.

The pith which comes away with the shield is gently levered or jerked out with the point of a knife taking care not to pull out the tiny core of the bud when doing this or it will be useless.

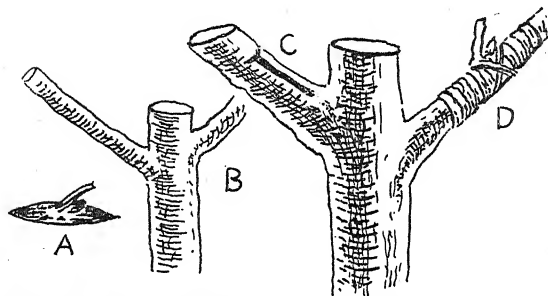


The shield is then carefully worked beneath the bark at the T shaped slit on the briar, so that the bark on either side overlaps it. When in position the work is carefully bound round with raffia, this should be slightly damp when used and care must be taken that the bud itself remains free and is not damaged in any way by the binding.

Fruit

STRAWBERRY beds should be protected against birds if at all possible or a good deal of fruit will be ruined. In warm districts early varieties of strawberries will finish bearing before the end of the month.

As soon as this happens the straw should be



Budding Roses—The bud (A). Briar with shoots sharpened (B). Cut for bud (C). Bud bound in place (D).

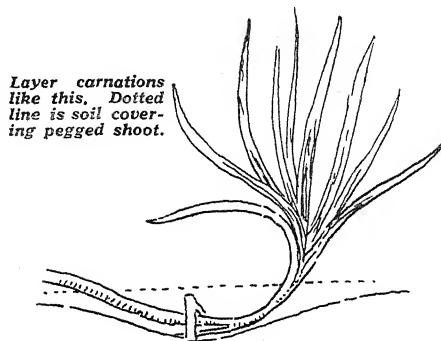
removed from between the rows and the beds should be carefully hoed as they will be very weedy and it is a good plan to prevent weeds seeding as much as possible.

If there is a young bed of strawberries from which new plants are wanted, the runners which are forming should be carefully pegged down.

A better method still is to layer the runners by pegging them down into small pots filled with good soil and sunk in the ground. The plants do not then receive a check when separated from their parents and the ball of soil may be turned out of the pots complete when the time comes for planting the young plants in beds.

Not everyone has a sufficient number of pots, however, and the method of pegging down the runners in the soil usually gives satisfactory results.

Dry sulphur dusted on to fruit trees, or plants is



Layer carnations like this. Dotted line is soil covering pegged shoot.

a protection against mildew, but it is not a cure for this trouble. The sulphur should be dusted on to the trees attacked as soon as the first sign of mildew is seen and if necessary a further dusting should be given later. Mildew spreads most rapidly in showery, close and misty weather.

July is a good month in which to prune plum trees, so the deadly silver leaf disease cannot attack.



The July Hobbies PHOTOGRAPHIC COMPETITION

Sea, River or Lake Scenes

Everyone who has a camera, stands a chance to win a cash prize in our Monthly Competitions. Two sections—Open and Junior. The available subjects under the above heading are widespread and gives everyone a chance to enter at least one print. There is no entrance fee, but good cash prizes.

Closing Date :
July 30th

RULES AND PRIZES

In the Open Section a 1st Prize of a Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed: Amateur Photographic Competition,

Hobbies Weekly, Dereham, Norfolk, and must arrive not later than July 30th. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.

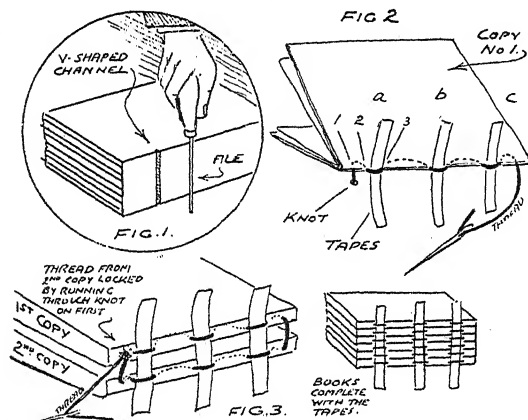
HOW TO BIND YOUR HOBBIES WEEKLY

HERE is a very simple, but really efficient method of putting together a number of Hobbies or other books, which if carried out carefully will give "books" that would in no way disgrace your small library.

The first thing to do, of course, is to decide how many issues of the magazine you are going to make into one volume. The thickness of the journal will have a lot to do with this. With quite thin weekly publications it is good to make a year of them in two volumes. That is, 26 copies in each, but if at all thick, 13 copies to the volume might be enough. On the other hand you might like to make one really big book, covering the twelve months.

Covers or Not?

The second thing is to consider whether you are going to leave the covers on. Generally it is much better to take them and advertising pages away, but where there are good cover-pictures and perhaps interesting 'adverts' that you wish to keep, they can be bound in with the copies.



Having all in readiness now take out (by unbending and *not* tearing) the wire stitches. With some care place the copies in a pile in order (No. 1 coming on top), and making quite sure that they are all even and flush with one another, mark by a small channel eight positions along the backs.

The Sewing Channel

Do this with a small triangular file, Fig. 1. These are to indicate on each copy just where the thread must be passed through, and also to help the movement of the needle. If these channels are accurately and carefully placed it will make the rest of the work much easier.

Now take three strips of tape about $\frac{3}{4}$ in. wide

and 5 ins. long, also a needle containing strong thread and taking the first copy from the pile proceed as follows and as shown in Fig. 2. Knot the thread and run it through from the outside to the *middle page*. Now back through hole 2, round tape (a), in at hole 3, on to hole 4, round another tape (b) and so on to the end, coming out at the last hole.

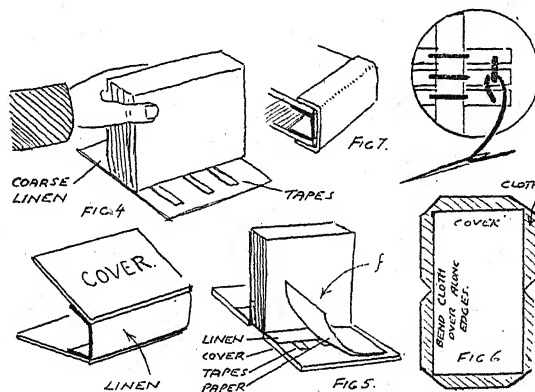
This is not as complicated as it may sound, and in any case studying the sketch for a few minutes should make it all quite clear. The dotted line indicates the path of the thread inside the paper.

Adding the Copies

Next take copy No. 2, and go back along it in the opposite direction. But when the needle comes out at the end, instead of going on to the third copy at once, run the needle through the knot just above (Fig. 3) and then pull the thread up tightly throughout its complete journey.

Now get on to copy No. 3, and repeat the whole process which will leave you finished up at the right-hand side (as far as the sketch is concerned). Before starting on copy No. 4 "lock" the previous copies by passing the needle through the loop that is formed by the thread coming down from copy 1 to copy 2; again tightening everything up. (See small inset sketch). For "tightening up" a button hook or some similar instrument is useful with which you can follow the thread round its journey pulling up the slack.

This way then you carry on right down the pile,



by which time you should have a very solid bundle all stitched together as per the illustration. The great thing at this stage is to get all the thread pulled up as tight as it will possibly go, and to allow of this tightening a pretty strong thread should be used.

Now obtain a rectangle of coarse linen (or an net-like material) and covering the whole end c

the books and tapes with strong glue fasten on the material as indicated, rubbing it well into contact with the back and tapes (Fig. 4).

Covers

While this is drying we can make the covers. These are two sheets of stiff card just a trifle wider than the journal in question.

Suitable card can be obtained from any printers at about 3d. per sheet. If bought at a printers, get them to cut the sheet to the two sizes you want before leaving, as this will save trouble and give your covers greater accuracy.

The covers are fitted by gluing their ends to the outside of the material flaps, and to the tapes which extend beyond these, again use very strong glue (Fig. 5). Make quite sure that the edge of the card exactly meets the bend in the cloth as it comes over the edge of the backs.

Inside Covering

When everything is adjusted correctly (and not before) put under pressure to set, and when nearly dry paste to the inside of each cover a rectangle of coloured paper (f) to cover the material and tapes and to generally help in making it stronger.

Now put under pressure again till everything has quite dried out.

The volume is now almost finished, but to make things more robust still, we glue another rectangle of material along the back and over the outer edges of the cards as shown (Fig. 7) and finally we put on the cover (Fig. 6).

Finishing

This is done in the same way that you cover a school-book with brown paper to keep it clean, but instead of using paper we employ "embroidery" canvas. Cut it as shown, and when folded-in, secure with a few stitches between the turned in edges.

This is the simplest and a really quite efficient mode of finishing the volume, but if you desire you could buy suitable strong leatherette paper from Hobbies. This is fitted the same way but it is glued into position. It gives a decidedly 'official' appearance to the volume and as a final touch, the name of the book may be printed along the end so that it may be read as the volume stands in a case.

If you are at all artistic a very good job can be made of this with gold paint, or the actual name cut from one of the journals and pasted on will often look quite well.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

| NAME | ADDRESS | WANTS FRIENDS | INTERESTS, Etc. |
|---------------------|---|---|--|
| Wong Siew Wai. | 45 Birch Rd., Kuala Lumpur, F.M.S. | Anywhere except Malaya. | Anything. |
| Chong Yew Chong. | 57 Weld Road, Kuala Lumpur, F.M.S. | Anywhere except Malaya. | Anything. |
| Louis Lee. | 85 Gold Street, Johannesburg, Transvaal, S. Africa. | Anywhere. | Stamp Collecting and all Sports. |
| R. T. Sanderson. | "Lesbury," 40 Teviotdale Gardens, High Heaton, Newcastle-on-Tyne, 7. | America. | Anything. |
| J. Ridley. | 39 Dovedale Gardens, High Heaton, Newcastle-on-Tyne. | America. | Anything. |
| L. E. Lawrance. | Burnt Lodge, Wormelow, Herefordshire. | Egypt, W. Australia, N. Zealand or Canada. | Anything, especially Fretwork. |
| Henry Ang. | 21-6 Lorong 16, Geylang, Singapore, S.S. | Anywhere. | Fretwork. |
| B. Walters. | 534 Banbury Rd., Oxford. | Brit. Isles. | Anything. |
| Ivor Morrison. | 61 Norman Rd., Swindon, Wiltshire. | Anywhere. | Stamps, Ships. |
| Costy Costas. | 719 Morkham St., Toronto, Canada. | Age 12-14. | Stamps. |
| V. Hurley. | c/o E. J. Hurley, P.O. Box 1016, Johannesburg, Transvaal, S. Africa. | East Indies. | Nature, Fretwork, Photography and Carpentry. |
| J. G. Mottram. | "Chirbury," Blackwell Rd., Barnet-Green, Birmingham. | Boy age 11-13 in any British Colony. | Stamps and Railways. |
| J. U. Ofoduile. | Teacher, St. Peter Clavers School, Catholic Mission, Newi (Onitsha Province), Nigeria, B.W. Africa. | England, Anywhere. | Shows, Music, Photography, Football, Geography and Religion. |
| Eugene Williamson | Hope Waddell Inst., Calabar, Nigeria, W. Africa. | All parts of the world. | Anything. |
| Osuji. | Hope Waddell Inst., Calabar, Nigeria, W. Africa. | All parts of the world. | Anything. |
| Christopher Onuorah | 42 Coram Bldgs., Herbrand St., Russel Sq., London, W.C.1. | Anywhere. | Anything. |
| Nkpe. | The Govt. College, Umu-Ahia, Nigeria, W. Africa. | Anywhere except Nigeria. | Photography, Football, Stamps. |
| P. Golding. | "Fair View," 16 Endcliffe Glen Rd., Sheffield, 11. | Boy or Girl, 18 yrs. In France, Switzerland, S. America, French or Spanish Morocco. | Anything, especially Travel. |
| S. Gladson Chiedh. | | Anywhere Abroad, particularly S. Africa. | |
| R. Habershon. | | England or Brit. Empire. | |
| W. Bergman. | 30 Huskins St., Stepney, London, E.1. | | Fretwork. |
| D. S. Wood. | 1 Marden Crescent, W. Croydon, Surrey. | | Motor-cars, Fretwork and Cycling. |

HOW TO IMPROVE YOUR PHOTOGRAPHIC PRINTS

WHILE there may be many of our readers who know the tricks that are employed in making successful gaslight and bromide prints, yet there must be quite a number who, through lack of experience, or because they are only just commencing to do their work, have found that it is not always so easy as it reads or seems to get a perfect result.

Some little time back, the writer was asked to go along to a club and to give a talk on gaslight and bromide printing and at the same time to judge the entries sent in for a competition. It was a recently formed photographic society and most of the members had only been doing their own work that season. So one was able to see a lot of faults and to give a little instruction on what to do and what not to do. The following notes are the outcome.

White Margins

How often one sees a print that is almost perfect in every way, and yet it is lacking in its finish. It has an untidy edge to the image, due entirely to printing the film without masking it. If the worker had only taken just a little more trouble the print would have been twice as good.

There are several ways of doing this masking. Some workers use lantern slide masks, which can be purchased quite cheaply in various sizes so different widths of margins can be made with them.

Place one of these on the glass that is always in the printing frame and lay the negative on it. Then the piece of printing paper is put on that. The light cannot penetrate the black mask and so when the print is developed there is your white margin.

Another method is to buy a roll of lantern slide binding. This is obtainable in rolls or strips and

for your purpose it is best in the former. It is black and is also opaque. Cut four strips, two of them the width of the glass and two the length and stick them one each to the four sides and on the face of the glass, but do make sure that they are rectangular, otherwise the margins to your prints will look very wry.

Another Method

The third method is in the writer's opinion best, because if you make three or four of the glasses you will have a permanent help in your printing equipment which will be always handy without causing any waste of time. If you are using a $\frac{1}{4}$ plate frame get four pieces of glass $4\frac{1}{4}$ ins. by $3\frac{1}{4}$ ins. or if you are using a $3\frac{1}{2}$ in. by $2\frac{1}{2}$ in. frame then your dealer will get you for a few pence the number of pieces required.

Now cut four pieces of paper to the following sizes (and these are for those of you who are using $3\frac{1}{4}$ in. by $2\frac{1}{4}$ in. films)—one piece each $3\frac{1}{4}$ in. by $2\frac{1}{4}$ in.; $2\frac{1}{4}$ in. by $1\frac{1}{4}$ in.; $2\frac{1}{2}$ in. by $1\frac{1}{2}$ in. and $2\frac{1}{4}$ in. by $1\frac{1}{4}$ in., it is very important that these are carefully cut and to ensure square corners it is as well to use a set square for the job. Then paste one of these pieces on each of the glasses and as near the middle as you can. Be certain that the paste is on the edges for it is necessary to have the edges well stuck to the glass.

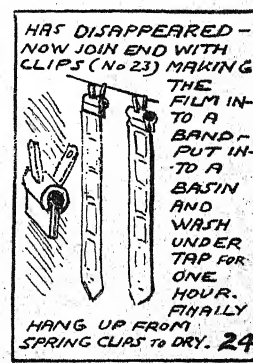
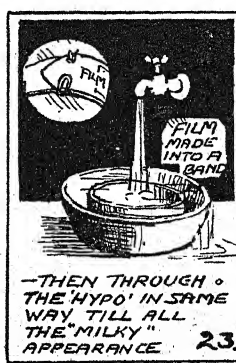
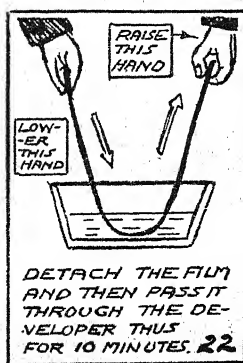
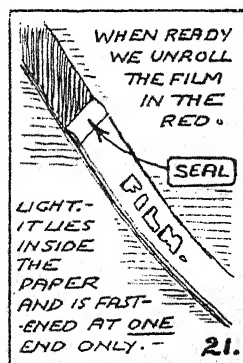
A Special Black

For this job you require a small bottle of Cinema Black and a fairly good camel hair brush. The Black is sold at about $\frac{1}{3}$ by many of the photographic dealers and if they have not got it in stock, they can soon obtain it for you.

Take a brushful of the black and paint it round the paper on the glasses so that it only just overlaps the paper and covers up all the exposed part

Our Photographic Feature Strip . . .

(Continued)



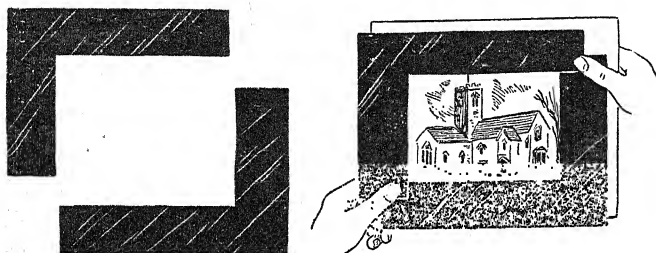
of the glass. If you put it on fairly thickly it will prove to be opaque and therefore will not let light through. It dries in about an hour and it is well to examine the glass to see that there are no little pinholes or other weak spots in the painting where the black has not taken to the glass.

If you are satisfied that the paint is thoroughly dry, place the glass in a bowl of water to allow the paper to soak. The black being of a water-proof nature will not be affected and you should be able to draw the paper away without damaging the edges of the printing, leaving a perfect mask.

Try one of these methods of masking for your future printing and we are sure you will be pleased.

Stains

In an article which appeared in our issue of Nov. 1st, 1937 on gaslight printing only, a brief mention was made concerning stains. Unfortunately quite a large number of pieces of printing papers are spoiled because of the stains which occur. As pointed out in that article,



Two L-shaped pieces to form a mask for a picture

however, they are not through any fault of the material or process, they are invariably the result of bad or careless manipulation.

Should you under-expose when making the print, the image will take some time in the developer before it shows. When this happens there is always the tendency to leave it in the solution hoping that the image will come up in course of time. This, however, will not and cannot do, for the exposure was such that only a faint image could possibly be formed. Therefore the developer cannot do its work, with the result that the developer solution that has penetrated the emulsion of the paper is oxidising and making a stain. The remedy is to give more exposure.

A Light Effect

When you have developed a print, you are naturally anxious to see whether it is fully developed and so you take it from the solution and examine it under the orange light. Perhaps you keep it there for a few seconds before passing it to the fixing bath. In that short time the developer in that print is being exposed to the air. As it is an oxidising agent, it is consequently always ready and greedy for oxygen and this causes it to change its colour and so make a stain.

The remedy in this case is to place the print as quickly as you can into the fixing bath. If you must examine it, then have a dish of clean water by your side and plunge the print into it before

examining to remove as much of the developer as you possibly can.

Many amateur photographers work with a Stop Bath between the developing and fixing. It is a very useful extra, for immediately the print is placed into it the developer in the print its action ceases. You must remember that the use of this bath, however, does not allow the print to be returned to the developer.

To Make a Stop Bath

Those who would like to make a Stop Bath can do so by dissolving 1 ounce of Potassium Metasulph in 20 ounces of water. It keeps good for all time until exhausted by use.

Some folks try to be too economical with their chemical baths and endeavour to work them after they have become exhausted. This is a great mistake and very unwise, for instead of saving, it often means waste and if the developer is exhausted it means that the print has to remain in the solution longer than is good for it. The result is badly stained and not worth keeping.

Or if the hypo or fixing bath is done, it is unable to attack the free silver in the image and so this gets exposed to light and air and again stains result.

Spotting Prints

Sometimes it happens that a small white spot occurs on the print, caused through a little airbell settling while it was being developed. It is very simple to remove it or rather to spot it out. Actually this remark is

wrong, because it is not put out—it is filled in by the use of spotting medium.

Take a fine brush with just the smallest touch of the medium, then carefully and very lightly put the point of the brush on the centre of the spot on your print. The medium is black and its depth of colour can be reduced by the addition of a little water. So if your spot is in one of the half-tones of the picture it is thus possible to thin the medium down to the actual tone of the print at the spot.

For Negatives Also

This medium is also for use on negatives as well as prints so if you have a pin hole or airbell spot on any of your films, fill it up in exactly the same way as described for prints.

There is one other item and that is greyness. Some of you may have experienced a slight grey effect on a batch of prints and have been somewhat puzzled. In all probability this effect is the result of using an unsafe light in the darkroom.

The light might be perfectly alright for some gaslight papers but not for the more delicate emulsion of some of the others and certainly not for bromide papers. If you cannot conveniently change the glass of the lamp then you must move it to some distance from where you are in the habit of working. If this does not overcome the trouble, then it is a case of replacing the glass with another that is safe and dependable.

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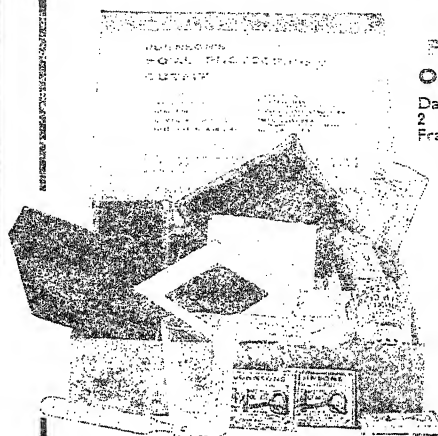
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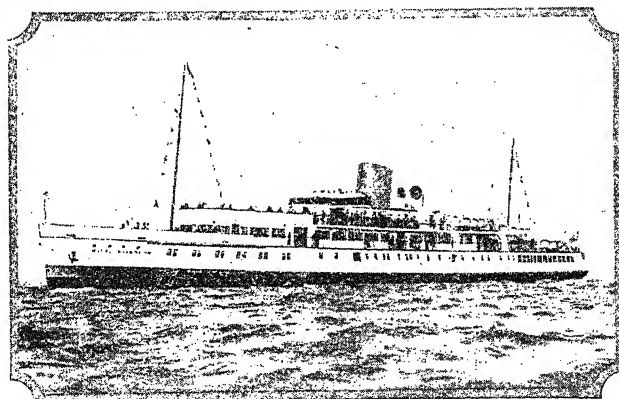
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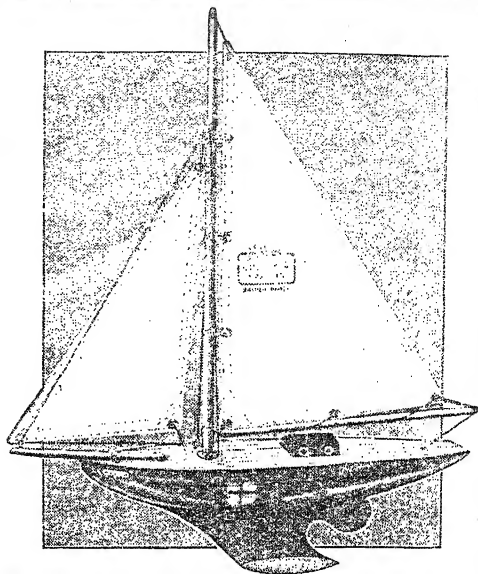
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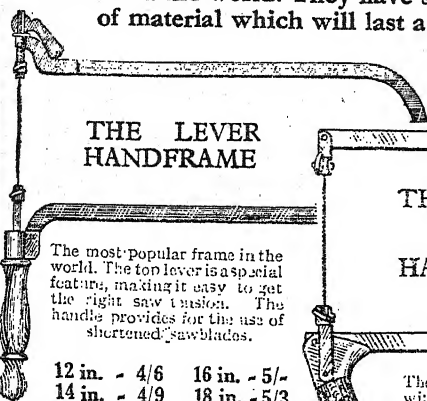


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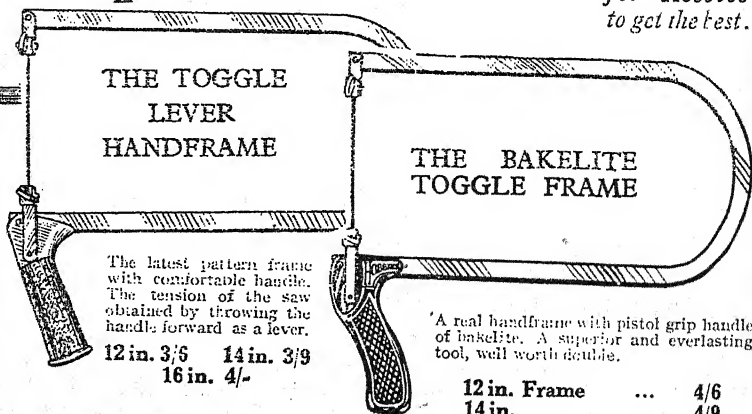


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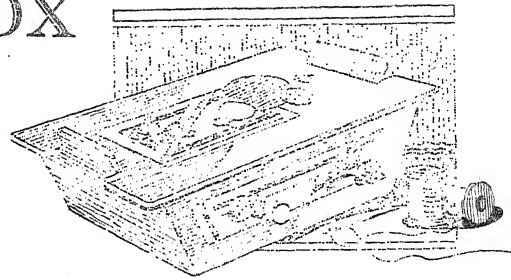
LADY'S WORKBOX IN WOOD

SUCH a box as is shown in the sketch would be a boon to those ladies needle-working in the garden or on the beach. It is a light-weight box constructed of plywood in a very simple manner and decorated on top and sides with wood stains or enamel.

The length of the box is 15 ins. and the width 8 ins., while the depth is 4 ins.

The lid is somewhat novel in shape to fit over the projecting ends. There are no hinges or any other fittings whatever to worry about.

The whole box should be made from either $\frac{3}{16}$ in. or $\frac{1}{4}$ in. wood, and nailed with $\frac{1}{2}$ in. or $\frac{3}{4}$ in. fret nails. In addition to nailing, strength may be given to the inside corners of the box by gluing in pieces of angle fillet. Pieces of angle fillet



see that the ends will come right with the uprights and that there is sufficient overhang at the sides.

Now, it is suggested that the two sides and the lid should have some simple form of decoration such as shown in Fig. 2.

The squares shown in these diagrams should be drawn out to $\frac{3}{4}$ in., the centres, each of sides and lid having been previously ascertained so that the panels come central.

Decorative Work

Draw in the decoration with the aid of the squares following each one carefully until all the lines tally with those in the small copy. Next go over the lines of the design with a very hard sharply-pointed pencil getting the lines well into the wood. It should now be possible to erase the lines forming the squares without effecting the lines of the decoration.

The wood stains suggested for filling in can be obtained at certain artists' colourmen supply shops, or better still the special tins of suitable enamel obtainable from Hobbies are distinctly suitable.

The small tins that Hobbies supply for 2½d. each are economical, and a large variety of colours is obtainable.

Applying the Colours

A small-pointed brush should be used so corners and points can be negotiated without fear of blotting. The main surfaces of the box—those of the two ends and the borders round the decorative panels, should be stained with Hobbies oak or mahogany wood stain, bottles of which can be got for 6d.

This staining should perhaps be done before the coloured work to get the true value of the latter in relation to the darker portions.

The inside of the box should be lined with green baize, this can be glued on in sections to fit the ends and sides. Or again, the inside could be lightly padded and covered with a flowered cretonne or satin.

The inside of the lid should be padded and quilted so as to take needles and pins.

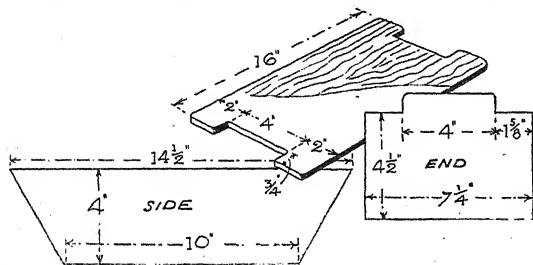


Fig. 1—Shape of the various parts

should also be glued in the angle between floor and sides, but if pieces are put between the floor and ends, the fillet will need to be planed down to suit the angles at these particular points.

The floor of the box is just a plain square piece 10 ins. by 7½ ins. To this is fixed the shaped sides which are shown in outline in Fig. 1. Between these sides will be fitted and fixed the ends also shown in that figure. The top edges after cutting must be glasspapered and made ready for staining.

In nailing the pieces together, care must be taken in marking out the positions of the holes which must be bored before any of the nailing is done.

The Lid

The outline of the lid of the box is shown in Fig. 1. Before actually cutting with the fretsaw

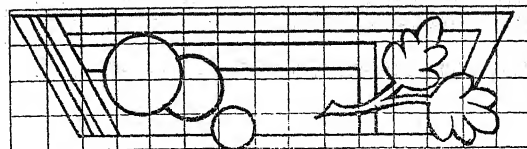
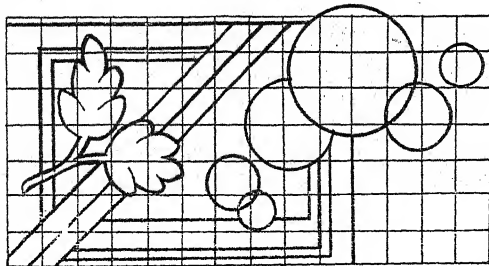


Fig. 2—Details of the design for top and sides

MODEL CASTINGS FOR MODEL SHIPS

THE appearance of your boat models will be considerably improved if you go to a little trouble in fitting them up with scale fittings. These are fairly expensive to buy, but they can be made at home quite easily and will compare well with those costing several times the amount expended.

Aluminium is the ideal material to use, for not only is this very light, but it can be melted and cast very easily and the finished appliances brought to a high degree of polish.

Fine plaster of paris is used for the making of the moulds in which the fittings are cast. Care must be taken to have all in readiness for making the mould before the plaster is mixed, for it hardens very quickly and becomes useless.

Making the Pattern

Patterns also will be required and while many of these may be shaped in wood, in some cases it will be necessary to buy one model fitting in order to get the correct type of pattern without going to a great deal of trouble.

Suppose, for instance, you wish to cast a ship's ladder similar to that shown at Fig. 1. First of all make a pattern in wood by shaping the side lengths very carefully and then fitting and gluing the treads in accurately.

Smooth the wood well and coat the pattern with paraffin oil or blacklead—taking care to cover every part—in order that it will leave the plaster easily when it is set hard.

Mixing the Plaster

Now find a shallow tin box, large enough for the ladder pattern to drop into, and mix the plaster in the following manner.

Sift it well through a piece of fine muslin to take out any lumps and place it into a heap on a smooth piece of board. Hollow out the middle of the heap and pour in a little cold water. Then turn the heap over and over until it is dampened right through, adding more water and mixing with the blade of a knife until it assumes the consistency of paste.

Putting in the Pattern

Pour this into the lid, allow it to settle down and then press the wooden pattern well down into the surface. Leave it in place until the plaster sets perfectly hard.

Lift out the pattern very carefully, taking great care not to injure the mould and you will find a perfect impression of the ladder. Gently blow away any dusty plaster that may be in the impression and thoroughly coat the whole surface with liquid blacklead.

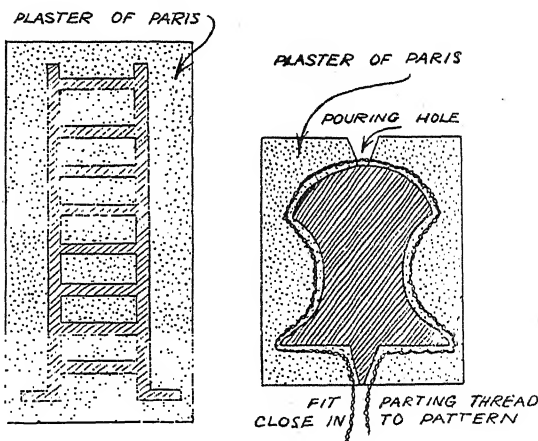
This fills the pores of the plaster and strengthens it so that a large number of castings may be taken from it. Melt some scrap aluminium in a ladle or old iron spoon—it will melt quite easily over the fire or a gas ring—and skim the surface of the molten metal with a piece of green stick cut from a hedge.

Pouring the Metal

Now pour the metal into the mould, taking care just to fill it and allow none to run over. Stand to one side until quite cool.

If the mould has been well coated with blacklead, the casting will lift out without damaging the mould in any way. Trim it, if necessary, with a fine file. Drill small holes through the foot flanges so it may be screwed to the deck and your first attempt at fitting casting is completed.

Hand-rails, stanchions, wheels, ship's lanterns, shackles and a whole host of small fittings may be cast in a similar manner in a flat mould, but



Mould for a ship's ladder and a section of a mould for a ship's capstan

rounded objects, such as bollards, capstans, binnacles, etc., require slightly different treatment.

Make or buy the pattern, and again coat it thoroughly with oil or blacklead to prevent sticking and this time make up the plaster slightly thicker. Coat the pattern thickly with the plaster, moulding it well into the curves and bends and allow it to set slightly.

In Two Halves

Pass a length of thin thread around the covered pattern, lengthwise, and pull it gently so that it cuts right through the plaster covering on to the pattern in the centre. Then put aside until

(Continued at foot of page 332)

NOTES ABOUT METRONOMES

THE young musician generally finds considerable difficulty in maintaining strict time, no matter what instrument he is learning, until further experience and years of training have cultivated a sense of rhythm more fully.

Mechanical aids to beating time are, therefore, of considerable value to the learner, not only in keeping the pace constant, but also in setting a tempo appropriate to the character of the composition.

In olden times, when the art of music was more or less elementary, the troubadour or wandering minstrel paid scant attention to the laws of harmony, and probably fitted the tune to the words, metrical or otherwise, varying the accent and the beat in relation to verbal rather than the musical sentiment.

The Inventor

In the twelfth to fourteenth century, composers were relatively few, their instruments scarce and crude, and in the majority of cases, the composer was also the performer, and a law to himself alone.

Probably the first inventor of the Metronome or timing device as applied to music was Etienne Loulie. In the year 1696 he brought out an arrangement consisting of a bullet attached to a cord capable of adjustment as to length, which he

called a "Chronometre," and it is said that this was capable of indicating seventy-two different degrees of velocity.

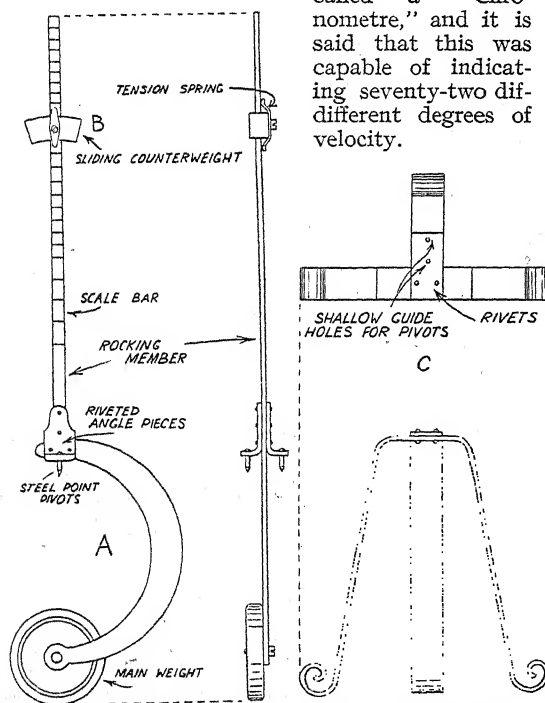


Fig. 1—The pendulum type of silent metronome

At any rate, the same idea seems to have appealed to other inventors at recurring intervals with slight modifications and alleged improvements.

Joseph Saveur worked on the idea between 1700 and 1711; Embroyg in 1732; Gabory in 1771; John Harrison in 1775; Davaux in 1784; and Pelletier in 1792, the various appliances being referred to as "Musical Timekeepers."

With String and Bullet

In the year 1813 Gottfried Weber contrived a pendulum type Metronome with a string and bullet for a weight, but the string was provided with knots at definite lengths so that the rate of swing could be repeated accurately.

In England, about the same time, Dr. Crotch used an instrument having a stiff wooden pendulum rod graduated in inches instead of a string, which seems to have been the first of its species to be sold in this country at Erats Harp Factory in Berners Street, London.

Up to this period all the musical timekeepers produced by their various inventors were most inconvenient to use owing to their great length necessary to obtain a slow beat.

A Difficulty

To beat at the rate of 60 times per minute requires a pendulum rod rather more than 39 ins. long, and this was an awkward and cumbersome appliance to carry about.

The first inventor on record to overcome this serious objection was Winkel of Amsterdam, who hit upon the scheme of using a double-weight pendulum. That is, a rod having a weight on either side of the suspension point, the heavier weight being below the point of suspension and a lighter adjustable weight being provided above the pivot which could slide into various positions as a counterweight.

In principle, this idea seems simple enough, and so obvious, that it is strange that its adaptation to the Metronome was not thought of until the year 1812, nearly 200 years after the first device for timekeeping came out.

How it Works

A rigid rod pivoted at its centre and having exactly equal weights spaced at exactly equal distances from its pivot would assume a horizontal position like the beam of a weighing machine.

If one of the weights were made lighter than the other, the heavier weight would drag one end of the rod down, and cause it to oscillate to and from until it came to rest ultimately with the rod in a vertical position.

By adjusting the lighter weight into different positions it is able to exercise a greater or lesser control over the main weight according to their

relative distances from the point of suspension, slowing the motion down as it is set further from the pivot, and vice versa.

By such means the rate at which the pendulum rod oscillates or "beats" can be regulated to a nicety, and since the period of oscillation is not affected by the amplitude of its swing, the "beat rate" for any setting is constant, whether the swing is large or small.

In practice this makes it possible to produce a Metronome that will give a working range between 208 and 40 beats per minute with but a fraction of the length of the plain single weight pendulum, a mere eight or nine inches overall, which makes the appliance perfectly portable and convenient for use.

The principle of this double-weight pendulum has formed the basis of design for all modern metronomes. The first metronome factory recorded is that of Maelzel, established in Paris about 1816, the design being copied from that first brought out by Winkel. This has survived with but little alteration ever since.

One may see on almost every piece of music the tempo indicated by some notation such as MM = 80. The letters "MM" indicate Maelzel's Metronome; the figure indicates the number of beats per minute to which the adjustable weight is set on the scale, and the note indicates whether each beat is for the duration of a minim, crotchet, or quaver, etc.

Most of the pendulum rods also bear the words Largo, Adagio, Andante, Allegro, and Presto on certain regions of the scale markings, but little attention need be paid to them, as their significance is more or less at the discretion of the performer. It is the actual beat rate specified by the figures which should be closely adhered to.

The silent type of double-pendulum Metronome is not difficult to construct, and a scale drawing is given of the instrument in Fig. 1. It consists of three main parts, a rigid swinging member A, an adjustable sliding weight B, and a tripod stand C. They are shown in the diagrams one third full size and can be measured off for making up.

Part A carries a main weight at the lower end and a light parallel bar at the upper end to receive the sliding weight B by which the rate is controlled. Between the two there is a pivot suspension consisting of two steel points resting on a platform provided by the tripod stand, allowing the pendulum to swing freely to and fro in one direction. The instrument can be made from plain brass sheet, the scale drawings giving all essential particulars and sizes. As slight variations in the weight and position of the top counterweight will alter the rate of the beats appreciably,

it is advisable before finally marking off the scale bar to check the actual rate of each beat, setting by means of a stop watch.

If the brasswork is well polished and lacquered, an instrument such as this has quite a presentable appearance, and is an excellent aid to a beginner in training himself to be a good "timist." An address for brass sheet is obtainable from the

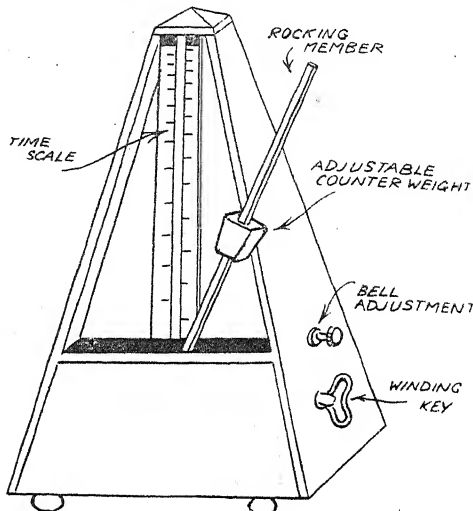


Fig. 2—A clockwork metronome with the cover removed

Editor on request, as well as for the lacquer for finishing off.

Besides the silent pendulum type Metronome, there is another which is designed to give audible beats, so that the eye of the instrumentalist is not distracted from his composition by attempting to follow the beating of the pendulum.

Bell and Gearing

In principle both types are similar as to the counterweighted pendulum rod, but with the audible type there is a clockwork escapement added, driven by a strong spring, so that it becomes virtually a loud-ticking clock.

A further refinement also includes a small bell and an arrangement of gearing which causes the bell to sound at every second, third, fourth, or sixth beat, to mark the commencement of each bar.

The clockwork motion is wound by a key on the outside of the case, the general appearance being as shown in Fig. 2. Clockwork movements are beyond the scope of the amateur to construct and are produced abroad, but we can recommend an address from which the mechanism can be purchased if readers desire.

Model Castings—(Continued from page —)

hard. Pull the thread gently away with a sawing motion and the mould will come apart in two halves, allowing the pattern to be removed from the centre.

Coat the mould with blacklead, as before, place the halves together and wrap carefully with fine string. Through the top drill a small hole through which to pour the molten metal and run a little

blacklead through this. Pour in the metal as with the flat mould, very slowly, or air bubbles will form in the casting and cool.

Separate the halves and a perfect replica of the original pattern will drop out. The small length of aluminium which will be found sticking up from the top of the casting—from the filling hole—must be cut off and the whole thing polished up.

The EDITOR'S NOTES



THIS week we have another of those popular ship designs and this time we have gone further back into history than the Galleons recently provided. Such a boat as this is quite an interesting change and will, I expect, be made up by as many people as have undertaken the others. Nowhere else is it possible to obtain such complete data and materials for many a model of this kind. Not only do we supply full size patterns and wood from which to cut them, but a painting plan with details for colouring up your finished, piece of work. In the usual way, you know, the charge for a blue print or design chart is at least 1/- or 1/6 and I know of some which are 7/6 the set. With Hobbies Weekly you get them free, and even if you want them as a back number they then only cost 4d.

BY the way, this type of English Warship had an interesting place in history, and makers of the model will do well to know some particulars about it. It is a thirteenth century boat such as King John employed in the battle of Damme, off Flanders in 1213. The raised castles fore and aft were an addition made, temporarily at first, for fighting purposes, but later King John built his own warships and had them built in with the ship. You must remember that originally the fighting ships were usually merchantmen "hired" and converted for the particular war on hand.

THE model is interesting too as having the largest steering oar at the side, exactly as, you may remember, in our model of an Egyptian war vessel. This steering paddle disappeared shortly after the ship of our model, being replaced by a rudder hung on a stern post.

EACH week, you see, there are specially interesting articles to make and do in these pages. Just now, for instance, I have on hand details of a very sturdy, but light and easily constructed Canoe, which will be appearing shortly and allow you ample time to complete it for good fun before the summer is out. Then, for those interested in model aeroplanes—

and their number is increasing daily—I have a new flying model which has been prepared, built and tested by an expert specially for readers of Hobbies Weekly. For this plane, as for the Wren and Comet previously published, there will be a full sized blue-print available.

THEN, too, you have probably seen the pictures of the joys of surf riding. Well, full details of how to make a Surf Board quite simply will also appear in these pages. So still more good things are coming along for readers of all ages and pastimes, you see.

IHAD hoped to give the result of the Maze Competition this week, but the number of entries was even larger, and the task of judging even harder, than anticipated. Anyhow I can promise you details and decisions next week, I feel sure.

YOU all like to hear of the different hobbies of collecting I know, and very often my remarks here on the subject have led others to take up little-known pastimes of this kind. Well, the latest to hand is the collection of smoker's pipes, and if you want to set out to beat records you will have 3,000 against you to start with.

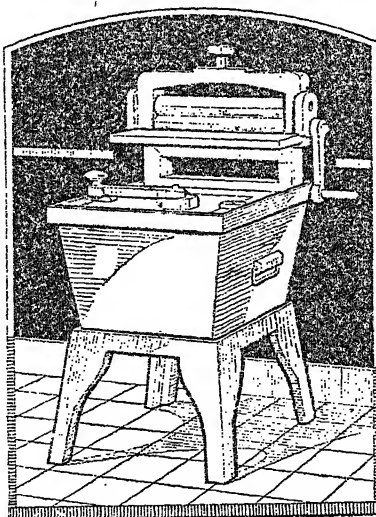
That is the number Mr. W. Crow, of Streatham, London, has collected during his 20 years' interest. They are sorted, labelled and put in cabinets and, as you may imagine, take up a good deal of room!

THERE is really an amazing variety in style and size and much of interest in their history. There are some which survived the Great Plague and others of the 17th century from Arabia as well as pipes made from albatross wings, reindeer antlers, sugar cane; Maori pipes, Turkish pipes, Eskimo pipes, Japanese water pipes, opium pipes; pipes from Russia, Arabia and Africa. Now, what about it, you collectors! I have half a dozen very old ones on my desk now which you can have now to start off with!

The Editor

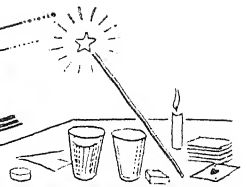
DOLL'S WASHING MACHINE

Design in next week's issue





FUN AND PUZZLE



THE B.B.C. SPOONERISH

Bathroom singing is a standing joke, so it was a good "Spoonerism" when the B.B.C. said "light music by the Bath Room Orchestra at Pump."

PIGGISH!

A professor was nearing the end of a lecture that had lasted a little beyond the scheduled time. To remind him of the fact, the students began to make various noises.

"Just one more minute, gentlemen," he said. "I have only a few more pearls to cast."



What's the difference between a bee and a donkey?

One gets all the honey, the other gets all the whacks (wax).

Why is tallow like a busy-body?

Because it makes scandals (candles).

What is the difference between a cow and a broken chair?

One gives milk, the other gives way (woley).

Why are hogs more intelligent than humans?

Because they nose (knows) everything.

What is the difference between the earth and the sea?

One is dirty, the other is dry.

BELL OR ORGAN

Why is the church bell better than the organ?

The bell sounds when it's told, the organ says "I'll be blown first."

NOT WHAT IS MEANT

"Are you a friend of the bridegroom?" asked a stranger at the wedding. "Oh no, I'm the bride's mother."

At the Police Court: "I'm a married woman and always have been."

At a Dance Hall: "All articles of clothing must be left in the Cloak room."

Book of Etiquette: "Never drink your tea with both hands."

Country Church Magazine: "The Rector will always be pleased to hear of any illness in the village."

IS IT?

A small scholar who had somehow become entangled in an essay on "Marriages" wrote:

"In England a man is allowed to have only one wife. This is called monotony."

A CARD TRICK

Here is a simple card trick for finding a card. Take any odd number of playing cards which is a multiple of three (e.g. nine, fifteen, twenty-one, twenty-seven). Deal them face upwards in three heaps, asking a spectator to note one card and to tell you in which heap it is. Pick up the heaps, with the indicated heap between the other two and repeat the process twice. When the spectator points to a heap for the third time, you may know that his chosen card is the middle of the heap—that is, if each heap contains five cards it will be the third; if seven, the fourth and so on. If you do not know this little trick, try it and see why it should be so.

HORSE SENSE!

A small farmer who was called suddenly away from home asked a neighbour to do him a service whilst away and send in an account for the expenses. The following was the account received. Can you make sense of it

| | |
|------------------------|-----|
| Aosterada | 2/- |
| Afertheos | 1/- |
| Ashuionim | 1/- |
| Anafechinoniminagin .. | 2/- |

Try it for yourself, then see the answer in Col. 3.

* * *

Why is it difficult for a man to get his watch out of his pocket?

Because it's (s) tucking there.

When does a cook break the law?

When she poaches an egg.

What bird can lift the heaviest weights?

The crane.

Why is a rheumatic person like a glass window?

Because he is full of pains (panes).

When is a newspaper the sharpest?

When it is filed.

What is taken before you get it?

Your photograph.

What is nothing?

A footless stocking without a leg.

Why are hives and nunneries alike?

Because they are full of cells.

Why are hogs like trees?

Because they have to root for a living.

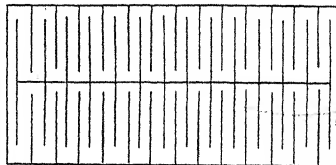
THE RIGHT WAY!

Write we know is written right,
When we see it written write;
But when we see it written wright,
We know 'tis not then written right;

For write to have it written right,
Must not be written right nor wright,
Nor yet should it be written rite,
But write—for so 'tis written right.

PAPER CUTTING

HERE is a simple trick with scissors and paper. Take a small piece of the paper about as large as half an envelope, and tell your onlookers that you are going to get through it. When they say it cannot be done you get a pair of scissors and cut it first of all down the centre, then along the lines as shown here. Now give it a shake or two and it will open out and you can easily put it over your head and body.



A GOOD STONE

Cohen appeared in the city one morning wearing a magnificent diamond pin. His associates were much impressed, and eventually one asked him: "I say, Cohen, where did you get that wonderful diamond?"

Cohen replied: "You remember Levy?"

"Yes," said his friend, "but he didn't leave you any money, did he?"

"No, he didn't. But I'm his executor and he left me five hundred for a memorial stone to be put up to him. This is it."

SOLUTION

The answer to the farmer's account is this:—

| | |
|--------------------------------|-----|
| A horse for a day... | 2/- |
| Hay for the horse... | 1/- |
| A-shoeing of him... | 1/- |
| And a-fetching of him in again | 2/- |

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or 1/11/6 are counted as one word. Postal Order and Stamps must accompany the advertisement. It will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 39/42 Ludgate Hill, London, E.C.4.

BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

IT'S EASY TO ENLARGE DESIGNS, pictures, etc., up to eight times original size with Hobbies all-steel Pantograph. 4/6; post 6d.—Hobbies Ltd., Dereham.

LONELY? Then write Secy., U.C.C., 16BB. Cambridge St., London, S.W.1. Genuine. Estab'd. 1905.

POLISH OUTFIT 2/3; post 6d. Comprises three kinds of stain crystals, woodfiller, cotton-wool rubber, bottle of Hobbies "Lightning" polish, glasspaper and instructions.—Hobbies Ltd., Dereham.

50 STAMPS FREE. Approvals 2d. stamp.—Paul, 43 Bramley Road, London, W.10.

MAKE YOUR OWN UKULELE, Mandolin, Guitar, etc. from Hobbies designs and materials. You'll be surprised how easy and cheap it is!—Hobbies Ltd., Dereham.

DO YOU KNOW WOOD? Eight specimen pieces each about 3ins. square, marked for reference, 8d. post free.—Hobbies Ltd., Dereham.

MAKING A CLOCK? We supply movements from 3/9. Hobbies Ltd., Dereham.

6/- IN THE £ COMMISSION. Xmas Club Agent wanted.—Garratt, Stockley Street, Northampton.

DOLL'S HOUSE Papers, Fittings. Bathroom set, fireside set, door knocker, etc. Write for list.—Hobbies Ltd., Dereham.

100 STAMPS, all different, sent genuine applicants for approvals. Postage 2d.—Errington Macquire (O), 51 Atkins Road, London, S.W. 12.

FRAME YOUR OWN PICTURES! We supply mitre block, cramps, mouldings, etc. Easy, fascinating work. Profitable, too!—Hobbies Ltd., Dereham.

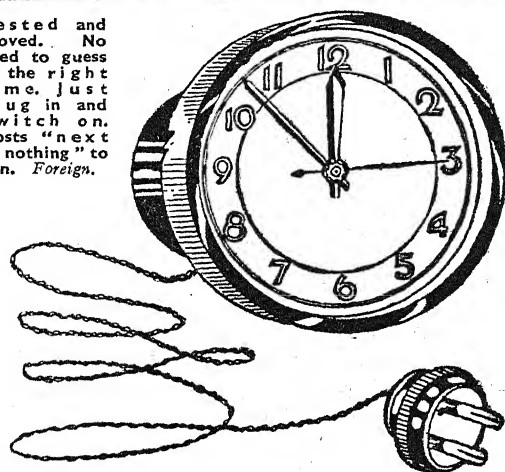
THE WORLD'S MOST POPULAR FRETWORK SET—Hobbies A1, price 12/6; post 9d. Other sets from 1/6 to 25/-. Send for list.—Hobbies Ltd., Dereham.

LATHE AND FRETSAW £5 carriage forward. Treadle-driven and just the thing for the home handyman. Write for details.—Hobbies Ltd., Dereham.

IVORINE (white) about 1/32in. thick. Just the stuff for fretwork overlays. In sheets 12 by 6ins. 1/6; post 2d. Also Xylonite (black) 1/3.—Hobbies Ltd., Dereham.

BOYS! Learn the 'why' and 'how' of electricity with a Hobbies Electrical Outfit. Fun, fascination, thrills galore. Prices from 3/-.—Hobbies Ltd., Dereham.

Tested and proved. No need to guess at the right time. Just plug in and Switch on. Costs "next to nothing" to run. Foreign.



HOBBIES Ltd. Dereham & Branches

The Right Time —all the time...!

More and more people have come to realise the convenience of an Electric Clock... the clock you can't forget to wind... the clock that gives the right time—all the time! Here is the complete movement, which you can fit into your own case.

200/250 Volts—50 Cycles A.C. Mains

With 6-inch chromium-plated bezel, second hand, flex and plug. It is refreshingly modern in appearance and will make a really worthwhile addition to the home. And how useful!

No. 5514. Price 25/- Postage 6d.

A TOY RAILWAY

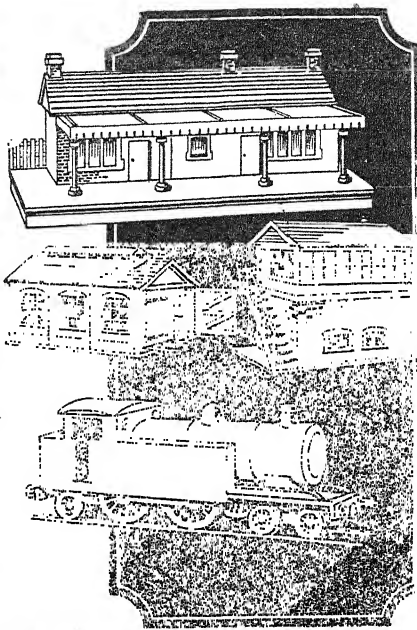
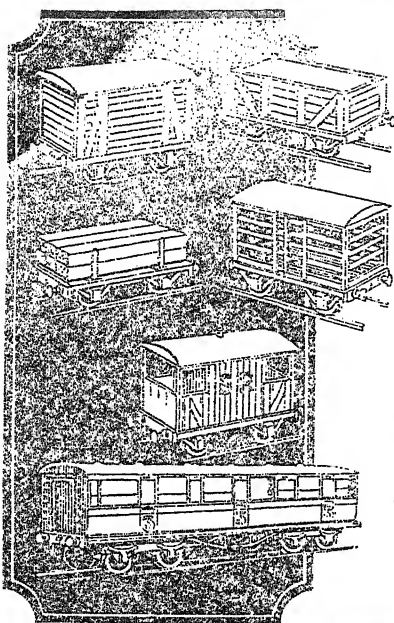
IN WOOD

Gauge 1. A complete set of designs for making a Tank Engine, Open Truck, Box Truck, Brake Van, Milk Traffic Van, Timber Wagon, Passenger Coach, Station, Goods Shed, Engine Shed and Signal Cabin.

**7
LARGE
DESIGNS
1/6**

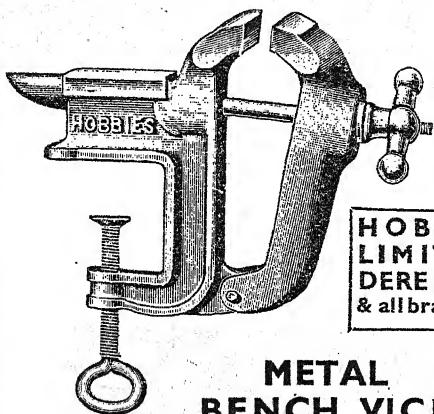
Post 2d.

Hobbies Ltd. Dereham
and Branches



Three Useful Vices

These are not high-priced vices which comparatively few can afford. They are all inexpensive to buy, yet thoroughly sound and practical to use. Made in Hobbies own factory, each one is of clever design and invaluable to any worker in wood. You need all three in your tool-kit.



**HOBBIES
LIMITED
DEREHAM
& all branches**

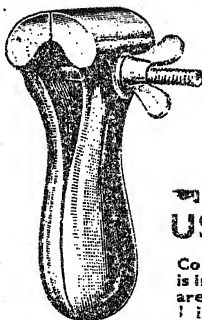
METAL BENCH VICE

A handy Vice for clamping to the bench. The jaws are $1\frac{1}{2}$ in. wide and have a capacity of 1 in. A vice of sound, practical design.

2/3

Post 9d.

The Hobbies 1938 Handbook shows the complete range of vices. Have you a copy?



"HANDY VICE"

A low-priced bench Vice with $\frac{3}{4}$ in. jaws opening up to $\frac{1}{2}$ in. Just the vice for those small, difficult-to-hold jobs. Clamp it on the bench or table, wherever needed.

Post 4d.

1/-

USEFUL HAND VICE

Comfortably shaped to the hand, this vice is invaluable on many occasions. The jaws are $1\frac{1}{2}$ ins. wide and have a capacity of 1 inch when fully opened. Beautifully finished.

1/9

Post 4d.

HOBBIES

BRANCHES AND AGENCIES. LTD.

Below are the addresses where Hobbies goods can be purchased. In addition, all leading stores and ironmongers stock or can obtain your requirements in fretwork and woodwork, designs; wood, turned legs, moulding, polish, etc.

HOBBIES OWN BRANCHES—

LONDON - - - 16 NEW OXFORD STREET, W.C.1.
LONDON - - - 147 BISHOPSGATE, E.C.
LONDON - - - 83 NEWINGTON BUTTS, S.E.11.
GLASGOW - - - 326 ARGYLE STREET.
MANCHESTER - - - 14 PICCADILLY.
BIRMINGHAM - - - 9a HIGH STREET.
SHEFFIELD - - - 4 ST. PAUL'S PARADE.
LEEDS - - - 10 QUEEN VICTORIA STREET.
SOUTHAMPTON - - - 25 BERNARD STREET.
HULL - - - 13 PROSPECT STREET.
CANADA
54 WELLINGTON STREET WEST, TORONTO.

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Aberdeen.—Jas. Mutch, Ltd., 47 Broad Street; Blackburn.—Mr. H. Mercer, 68 Darwen Street; Bradford.—Messrs. T. Underwood & Co., 17 Lower Godwin Street; Brighton.—J. B. Bennett & Co., North Road; Cambridge.—Mr. H. S. Driver, 28 Hills Road; Canterbury.—Mr. T. D. Goodman, 83 Burgate Street and 16 St. George's Street; Cardiff.—John Hall (Tools) Ltd., 22 and 24 Morgan Arcade; Croydon.—L. H. Turtle, Ltd., 6 Crown Hill; Dover.—Mr. E. F. Bockham, Queen's Gardens; Dublin.—Mr. J. J. McQuillan, 36 Capel Street; Dundee.—Phills Ltd., 20 Nethergate; Folkestone.—Mr. W. Allsworth, 16 and 18 Guildhall Street; Hastings.—Mr. W. H. Mozley, 4 York Buildings; Leicester.—Mr. Frank Berry, 3 Loseby Lane; Liverpool.—Mr. C. Lucas, 17 Houghton Street; London.—Messrs. H. Osman, 166 Aldersgate Street, E.C.; Newport, Mon.—John Hall (Tools) Ltd., 81 High Street; Reading.—Mr. W. J. Sargent, 44 West Street; Swansea.—John Hall (Tools) Ltd., 8 Gower Street; York.—Messrs. J. H. Shouksmith & Sons, 132 Micklegate.

HEAD OFFICE AND WORKS:
DEREHAM, NORFOLK

GENERAL NOTICES.

EDITORIAL.

All Editorial matter should be sent to The Editor, Hobbies Weekly, Dereham, Norfolk. If enclosed with orders or other matter for Hobbies Ltd., it should be written on a separate sheet of paper. Any matter requiring an answer must have a stamped addressed envelope enclosed.

DESIGN SHEETS.

The presentation Design Sheet is given only with current copies of Hobbies Weekly, and not with back numbers. The designs, however, can be obtained separately, from Hobbies Ltd., price 4d., post free, or 10d. in the case of double size sheets.

ADVERTISEMENTS.

All orders and letters respecting advertisements should be addressed either to the Advertisement Manager, Hobbies Weekly, Dereham, Norfolk, or to 30/32, Ludgate Hill, London, E.C.4.

INDEXES AND BINDING CASES.

An Index for any volume is obtainable for 4d. post free, and Binding Cases to take a complete set of 26 issues (making the volume) are supplied for 1/6, or sent post free for 1/8. The Cases are in red linen with gold blocked name on the front. The Azabook Binder, to hold 24 copies which you can fix in yourself is 3/3 (3/6 post free) including two dozen fastening staples.

BACK COPIES.

Back copies are obtainable from the Editorial address given above or from the Publisher, price 2d. a copy, plus postage.

CONTRIBUTIONS.

The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

SUBSCRIPTION.

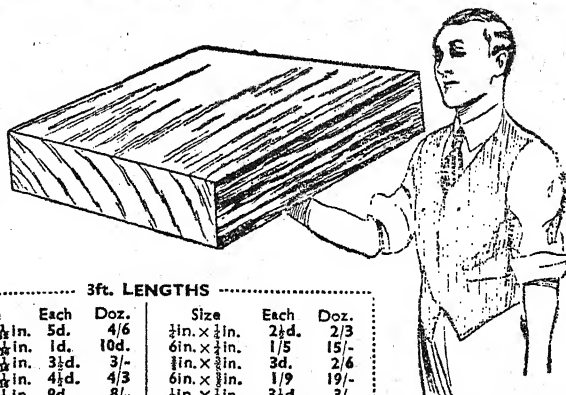
Hobbies will be forwarded by post to any part of the world at the following prepaid rates. Twelve months 13/-, six months 6/6, three months, 3/3. Registered for transmission by Canadian Magazine Post

Half the Weight of CORK !

This amazing timber is now obtainable from Hobbies at keen prices. It is easy to work with knife or saw and is the wood for the model aeroplane builder. Useful too for making model boat hulls, toys and 101 other things.

You can buy it from any Hobbies Branch or Agent or direct by post from Hobbies Ltd., Dereham. See note at right.

BALSA WOOD



| 3ft. LENGTHS | | | | | |
|-----------------|---------|------|-----------------|---------|------|
| Size | Each | Doz. | Size | Each | Doz. |
| 3in. x 1/4in. | 5d. | 4/6 | 3in. x 1/2in. | 2 1/2d. | 2/3 |
| 1/2in. x 1/4in. | 1d. | 10d. | 6in. x 1/2in. | 1/5 | 15/- |
| 2in. x 1/4in. | 3 1/2d. | 3/- | 1in. x 3/4in. | 3d. | 2/6 |
| 3in. x 1/4in. | 4 1/2d. | 4/3 | 6in. x 3/4in. | 1/9 | 19/- |
| 6in. x 1/4in. | 9d. | 8/- | 1in. x 1in. | 3 1/2d. | 3/- |
| 1in. x 1/2in. | 1 1/2d. | 1/3 | 1 1/2in. x 1in. | 7d. | 6/- |
| 1in. x 3/4in. | 2d. | 1/8 | 6in. x 1in. | 2/- | 22/- |
| 6in. x 1in. | 1/- | 10/6 | 1in. x 2in. | 4 1/2d. | 4/- |
| 1 1/2in. x 1in. | 2d. | 1/8 | 1in. x 1 1/2in. | 4 1/2d. | 6/9 |
| 6in. x 1 1/4in. | 1/3 | 13/6 | 2in. x 1in. | 1/2 | 12/6 |

NOTE.—There is a minimum charge of 6d. to cover postage and packing. Please include this amount if you order by post.

Toy Wheels



ALUMINIUM
BRASS BUSHED
1in. 1 1/2d. each.
1/3 per doz.
1 1/2in. 2d. each.
1/9 per doz.

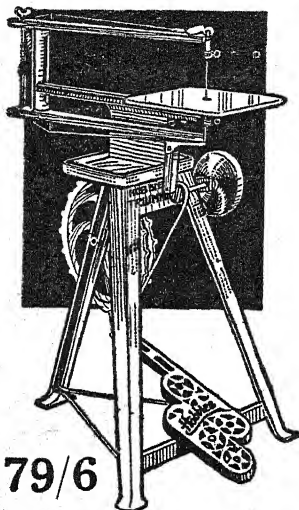
TIN
NOT BUSHED
1in. 1d. each.
9d. per doz.
1 1/2in. 1 1/2d. each.
1/3 per doz.

Post 2d.
Hobbies Ltd. Dereham

REPLY COUPON

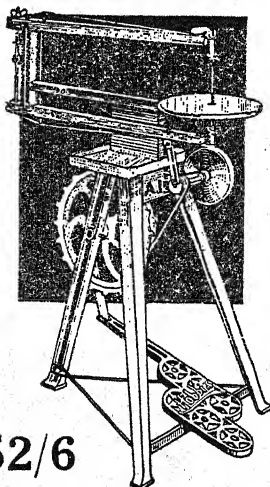
One of these small Coupons and a stamp for 1d. must be attached to your letter to the Editor, if you are enquiring about anything which demands an answer. Cut the Coupon out and put it in with your letter which should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk.

Get the Machine you have always wanted —Now!



79/6

This is the "Triumph." It runs on ball-bearings and is a heavily-built machine to stand up to long periods of service. It runs as "smooth as silk" and has a clearance of 19ins. behind the saw.

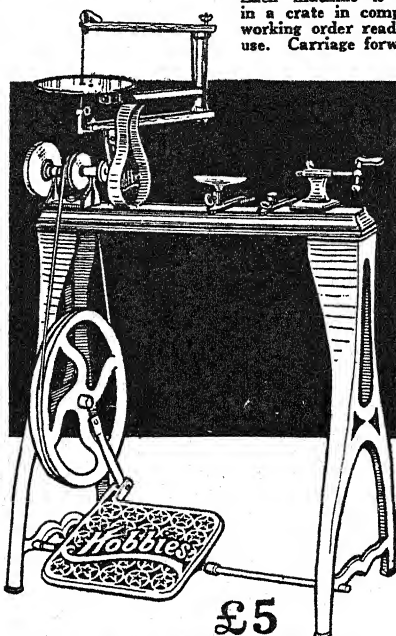


52/6

The ever-popular "A1" machine. The trusted friend of woodworkers everywhere. A sturdy sweet-running machine with all the usual features. It has a clearance of 19ins. behind the saw.

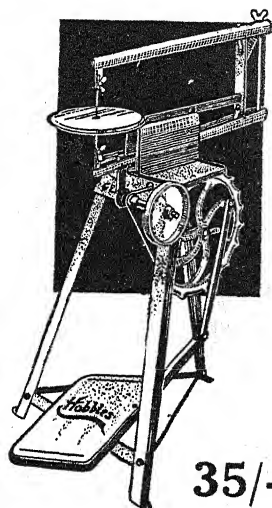
Do you know that a Hobbies Machine will cut wood $\frac{3}{4}$ -in. or even 1in. thick and cut it either on the bevel or straight as required? It does all this easily and quickly. When treading, you are hardly conscious of any effort—yet the saw is cutting its way through wood at about 800 strokes per minute.

Each machine is sent in a crate in complete working order ready to use. Carriage forward.



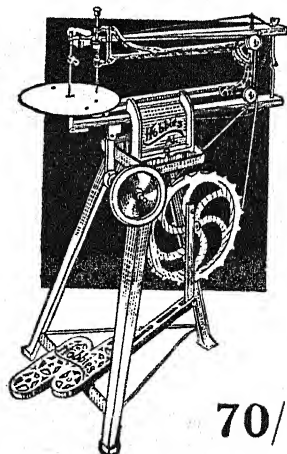
£5

The "Companion" Lathe and Fretsaw is the ideal woodworker's machine. As can be seen it is a useful lathe 14ins. between centres with a fretsaw attachment mounted on top. This attachment can be taken off and put on again merely by unscrewing one nut. The large driving wheel has two grooves to give a change of speed.



35/-

The "Gem," our lowest-priced machine. Made almost entirely of steel. It has a clearance of 18ins. behind the saw. The table does not tilt for bevel cutting.

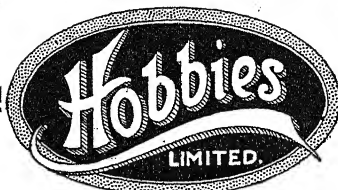


70/-

The "A1" with Drill. All the features of our popular A1 machine plus a treadle drilling attachment. A real time saver and wonderful value.

HOBBIES LTD.,

Branches in
London, Glasgow, Manchester



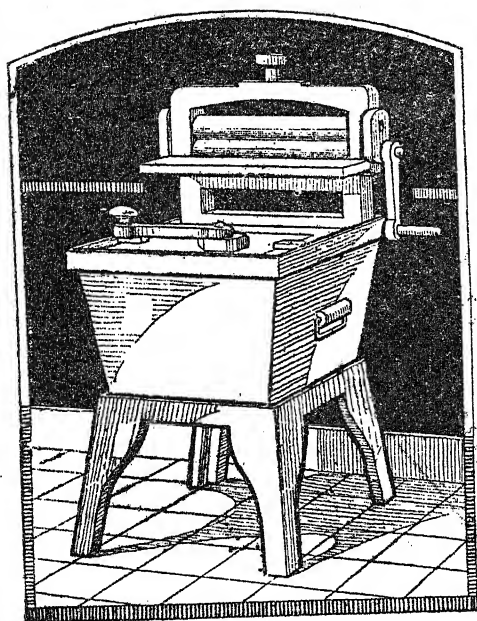
DEREHAM

Birmingham, Sheffield, Leeds,
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Hobbies

WEEKLY



DOLL'S MODEL WASHING MACHINE

Full size patterns printed inside

Also articles on
ELECTRICITY
WOODWORK
SCOUTCRAFT
CYCLING, etc.

July 9th. 1938

2^D

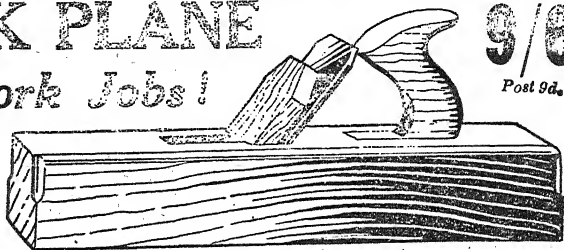
Vol. 86. No. 2229

THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL

You need a JACK PLANE for many Woodwork Jobs!

Is there a Jack plane in your tool kit? It's a useful tool and there are occasions when no other plane will do the job so well. Here is an opportunity to buy yourself a Jack plane of dependable quality at a modest price.

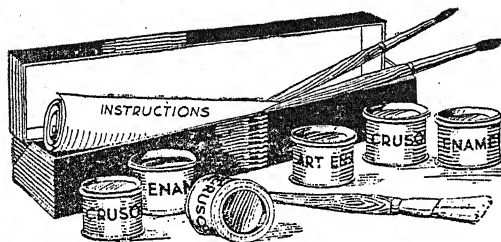
HOBBIES LTD., DEREHAM



9/6
Post 9d.

Block made from seasoned Beech, beautifully finished and comfortable to handle. A double Iron 2½ in. wide is fitted in the approved manner. You cannot buy better "plane" value. Get one NOW!

Get this HOME Painting Outfit



Every handyman needs this Outfit. With it you can paint on wood, glass, leather, pottery, etc.—a delightful and profitable hobby. Complete with 6 tins of enamel, 3 brushes, and instructions as shown.

1/9
Post 3d.

HOBBIES LIMITED, DEREHAM

TWO Cheap SETS



The H1

Contains 12in. Handframe, steel Cutting Table and cramp, six fretsaw Blades, design

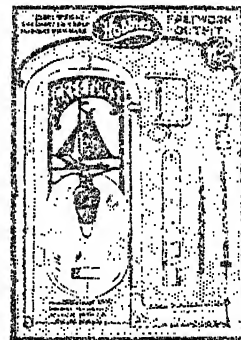
1/6

The H2

Similar to H1, but with metal drill and bit, 6in. rule and six extra sawblades. Well worth the difference!

2/6

These two sets are for those who want something a little cheaper than the standard HOBBIES Outfits. How much better than the cheap foreign sets about this price!



REMEMBER—Hobbies guarantee of satisfaction is behind each set. Buy from Hobbies Ltd., Dereham, Norfolk, or any Hobbies branch. Postage 6d. extra.

READY-TO-FIT DOORS

Well-made doors with ¾ in. Oak Framework

No. 600A. 8ins. high, 9ins. wide,
1/6 each, 2/9 per pair.

No. 600B. 9ins. high, 8ins. wide,
1/6 each, 2/9 per pair.

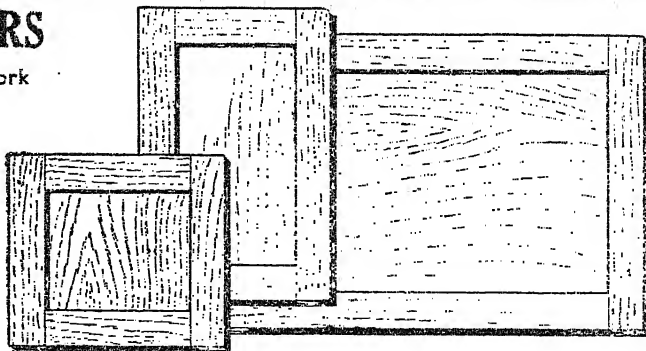
No. 601. 12ins. high, 8ins. wide,
1/9 each, 3/3 per pair.

No. 602. 12ins. high, 18ins. wide,
3/3 each, 6/- per pair.

No. 603. 16ins. high, 14ins. wide,
3/- each, 5/6 per pair.

(No. 603 is in light wood, suitable for staining). Postage 6d. extra.

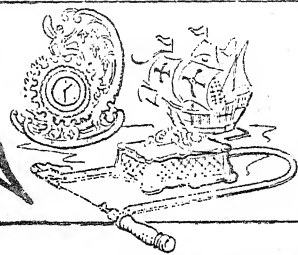
HOBBIES LTD., DEREHAM





Hobbies

WEEKLY



July 9th. 1938

Vol. 86. No. 2229

DOLL'S WASHING MACHINE

THIS week we have another of the models from our series of doll's kitchen furniture, and the novelty illustrated herewith will be a useful addition to those previously published. Back numbers of these, by the way, are obtainable for 3d. each, post free and a list of them will be sent on request.

Complete patterns for all the parts are shown on the centre pages of this issue, and a parcel of wood is provided with the necessary pieces of wood planed and cut the size required.

Size of Model

The completed model is 8ins. high and its arrangement in the completed kitchen layout is shown in the photograph herewith. Here you see not only those articles which have been already printed in these pages, but details of the others which are yet to come to form what will undoubtedly be a novel toy for any little user.

Before commencing work, study the illustration of the finished article in connection with the patterns, and read these instructions in order to obtain an idea of how the whole thing is put together.

Actually the machine is independent from the little stool upon which it stands, but the wringing portion is glued to the top at the back. Most of the parts required are in 3/16in. plywood and when complete the model is finished with paint to make it the more realistic.

There is very little cutting to be done, and all of it is undertaken in small pieces of wood with a medium fretsaw blade. The patterns themselves can be pasted down to the

wood or marked out by means of putting a piece of carbon paper under the paper then drawing through with a sharp hard pencil.

In any case, the first work is in the construction of the stool portion. Cut out the various pieces shown for these, consisting of the four legs and a top. The top of the stool is a plain piece 2 1/2 ins. square and it is glued 1/4 in. downwards from the top edge of the legs when these parts are fitted together.

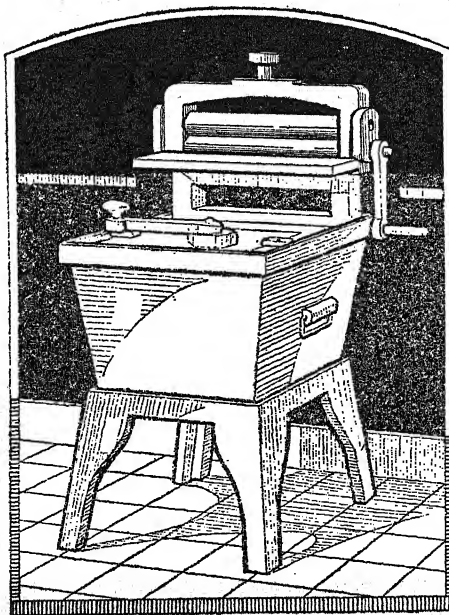
The two narrow stool legs are glued between the two wider ones, and as they are at an angle outwards towards the bottom, it will be necessary to glasspaper the top edging down flat. Put the floor in first, and if necessary strengthen it up in the corners with tiny blocking pieces. Remember to drop it 1/4 in. down from the upper edge.

Then turn the whole thing over, and rub it with a circular motion on a sheet of glasspaper. This will bring the top edge of the stool flat. Now we can turn our attention to the washing machine which, again, is a simple box frame of two sides and two ends, with a floor piece between.

Framework

The two narrow sides are glued between the two wider ones all sloping outwards. The floor is a plain rectangle, but the edges must be chamfered slightly with a long file to get the angle of the sides and to fit in the square opening tightly. Get this a good fit and glue in position, noting at the same time that the whole thing will stand comfortable into the sunk top of the stool previously made.

To two sides of this machine are added the little handles. Each is a



short piece of $\frac{3}{16}$ in. material, two edges of which are rounded to form the handle itself on the underside a small groove is cut, and into this is fitted the shaped piece of wire forming the handle itself. A detail of it is given with the patterns. Glue this handle centrally on each of the actual sides of the machine.

Now we can cut the piece forming the top. First of all this is a plain rectangle of wood $3\frac{1}{4}$ ins. square, then with a fine drill, bore a hole at one of the corners between the cutting lines shown.



The model with other designs for a Complete Kitchen

Run the saw around between the two lines on the pattern as carefully as possible, and then after cleaning up, fit this cut-out piece with a pair of $\frac{1}{4}$ in. hinges. This top is glued on to the sides of the washing machine itself but before doing so it is as well to complete the interior portion on the underside of the lid.

The Washing Mechanism

Notice in the centre of the movable lid piece there is a hole for a spindle. A washer surrounds this hole on both sides of the wood. These are the pieces shown as handle blocks.

Glue them in place then undertake the agitator which forms the manual labour in the actual operation of washing. For this agitator two pieces of $\frac{3}{16}$ in. are cut to the shape shown, and glued together. The long sides are then tapered off towards each end as shown in the sketch, and a piece of dowel is afterwards put in and glued to form a spindle.

This dowel is $2\frac{1}{4}$ ins. long and works in the holes cut through the lid, and its handle blocks previously mentioned. The handle itself is glued to the top end of the spindle, and a little knob added at one end for comfort in holding.

We thus have the agitator portion fitted

to the hinged lid, and can now complete the whole lid itself. It is glued to the top of the sides, and two little turned buttons added where shown by the dotted lines.

Lid Additions

These turned buttons are in $\frac{3}{16}$ in. wood held down by a screw, but not fitted absolutely tight. They can be turned to allow the lid to be opened.

To prevent the lid falling inwards, and to overcome the strain on the hinges, a stop piece is glued on the underside so a portion of it projects into the aperture and forms a rest for the lid to fall on.

To make a shapely top round the machine there are four pieces of edging. They are cut from $\frac{3}{16}$ in. wood, $\frac{1}{4}$ in. wide and $3\frac{1}{4}$ ins. long. The ends of each will have to be mitred to an angle of 45 degrees, but this can be easily done with a chisel or even with a fretsaw. Then the inner edge is chamfered down to form a slope towards the top of the actual machine.

The angle of this chamfer is shown by the section, and this is the portion which comes inwards. Glue these edging strips all round and your actual machine is complete. We have still to add the wringer at the back, however, and this can also be made up as an independent portion then glued on afterwards. Cut out the main body in $\frac{1}{4}$ in. wood and on each end of it glue the little disc pieces holding the wringers.

The Wringer

Each of these little pieces has a long oval slot and a circular hole next to it. The long slot must be uppermost. The one with the larger circular hole must be on the right to take the spindle leading to the turning handle.

This spindle is a tiny piece of dowelling glued into the end of the lower roller at A. The other end of the roller has a headless nail fitted into it so the whole thing will turn in the end pieces formed.

Of course, suitable holes must also be made through the thickness of the main body of the wringer at the points shown by the dotted lines.

The upper roller merely has a panel pin or headless nail driven into the centre at each end through the small long opening in the end pieces.

By having this slot the upper roller revolves when the lower one is turned, and allows for the up and down motion according to the thickness of clothes put through. The end of the spindle on the bottom roller is fitted to the handle comprising the long shaft and the little

CONTENTS

| | |
|-------------------------------|-----|
| Doll's Washing Machine .. | 337 |
| Hot Weather Cycling .. | 339 |
| Oriental Occasional Table .. | 340 |
| Bathing or Surf Boat .. | 341 |
| Handy Pocket Carriers .. | 342 |
| Door Bell Electric Light .. | 343 |
| Camping Comforts .. | 345 |
| Tools and the Users .. | 346 |
| Washing Machine Patterns .. | 348 |
| Bathing in Safety .. | 351 |
| League Correspondence Club .. | 352 |
| Scout Notes .. | 353 |
| Hints and Tips .. | 354 |
| Editor's Notes .. | 355 |
| One-Piece Folding Bookrest .. | 356 |
| Bookrest Patterns .. | 357 |
| New Stamp Issues .. | 359 |

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shaped dowel piece forming the handle itself. At the top of the wringer are cut two small discs in imitation of the pressure springs, and these are surmounted by the circle called the wheel which in reality can be turned to form the tension on the rollers.

The little shelf for the wringer must be made removable from the wringer itself. To do this, drive a $\frac{1}{2}$ in. nail half way into the edge of the shelf and nip off the head leaving $\frac{1}{4}$ in. of the nail projecting. This $\frac{1}{4}$ in. piece must fit into a suitable hole bored in the wringer frame in the position shown on the pattern.

The whole model should be given a coat of colour enamel to provide a realistic finish. To get the

style see one of the real wringers in an ironmonger's shop window and follow with Hobbies Enamel.

If you have made up the others of this series, follow out the same colour scheme as far as possible.

A light blue for the principal parts, with white stool and little lines of black on the wringer make a nice combination.

MATERIAL SUPPLIED

For making this Washing Machine and Wringer we supply a parcel of Beech including sufficient round rod and knob for 1/3 (post free 1/6).

HOT WEATHER CYCLING

CYCLING in hot weather is not so bad as it appears to be to those who are confined to towns and cities, where streets are stuffy and dusty at most times.

Considering that according to weather prophets it is likely to be hot during the summer we may take into consideration touring during a minor heat wave. How to keep cool—or as cool as possible—that's the main question.

The first and obvious way of keeping cool is to wear less clothing; but at the same time don't forget that skin which is unused to exposure to the sun will blister surprisingly easy. It is most uncomfortable to get a blistered skin—it may well spoil the enjoyment of your holiday.

Not Bareback

Therefore, do not be tempted to ride bare-backed. Experience proves that riding in a thin jacket of some light-coloured material that will deflect the sun's rays, is cooler than riding without one.

Arms should be kept covered if they are usually so, and protection must be given to the back of the head and neck. Sunburn, though not actually felt at the time, can be very painful and irritating later, and may cause a sleepless night.

Should the skin become inflamed and sore or tender when touched, apply vaseline or some suitable preparation, but not until the sun has gone to rest or you have completed your day's riding and are taking your ease at your lodging, indoors.

Clothing Hints

Wear lightweight clothing in hot weather and leave everything but absolute necessities behind. Of course, if cycle-camping you cannot avoid carrying bulky packages. Keep your pack as lightly loaded as possible in any case.

Although during hot weather you will not require so much stodgy food, you should double the allowance of fruit. Thirst is an enemy the hot-weather cyclist has to contend with.

Do not make free with "gassy" or "fizzy" drinks. Soda water may not be very palatable, but it is more of a thirst-quencher. A cup of tea

takes some beating, but fresh fruits of the kinds in season are better than all drinks when you are actually riding.

It is not a bad plan to carry a packet of dried fruits such as raisins; these are excellent thirst-quenchers and easy to pack.

A Quiet Afternoon

When the day is very hot and windless, spend the hottest part of the afternoon in resting, or at least, just "pottering" along, seeking if possible, the shady places. Some may prefer to spend the afternoon sun-bathing or taking a splash in the brook or stream—a swim-suit is easily packed somewhere handy.

Do not be tempted to ride fast under tropical-like conditions—you will only get all hot and bothered to no purpose. Ride leisurely, and avoid physical discomfort.

An Early Start

Another hint—get an early start. The day's mileage in hot weather should not only be cut down somewhat, but it is as well to do the main part of it in the early morning or evening. Evening riding too, is always pleasanter than during the hotter portion of the day.

An all-night ride in summer when it is really hot weather, is worthy of consideration—it is, at least, novel and unique, and most certainly cooler.

By the way, when riding on a sweltering afternoon it is a cute idea to stop at some wayside brook or spring and lave one's hands and forearms in the cool waters. This will be found to be refreshing, but beware of drinking such water, for roadside brooks are not always uncontaminated.

Insects

Insects are bothersome in hot weather—very much so at times. Most of them can be kept at bay by an application of good anti-midge lotion to all the exposed parts of the skin. It is advisable to carry a tube of such, and also take some ammonia in your first-aid wallet, in case of bites or stings.

ORIENTAL TYPE OCCASIONAL TABLE

HERE is a chance for the fretworker to make full use of his fretframe or machine. The little table shown in the sketch is typically Oriental in design, and would make a pleasing splash of colour for the dining or drawing room.

All Oriental work is gay and colourful in appearance, with reds and blues and gold predominating. So to follow this out we have chosen oak with a covering of gold for the main or larger surfaces and a line-out of bright red all round the fretted parts.

A less costly wood of course, could be used such as American white wood, where a wholly painted surface is adopted, with the frets again outlined as before. With gold on oak, however, the grain would show up beautifully and add greatly to the appearance and richness of the table.

The simplicity of construction is very marked, and is got by using a grooved corner moulding into which all four side panels are glued. Hobbies corner moulding (No. 38), having grooves $\frac{3}{4}$ in. wide will be used, and the method of putting in the panels and securing the top of the table is clearly shown in the sectional plan (Fig. 1).

The Fretted Sides

First set out the sides and mark in the outline of the decorated frets. A complete side view of the table is given in Fig. 2 and the sides are here shown by the dotted lines let into the grooved moulding. The position for an optional inner shelf is also given. The table has a more artistic appearance with this shelf left out, but it makes it stronger.

Each side panel is 18 ins. by 9 ins. by $\frac{3}{4}$ in. thick, and after

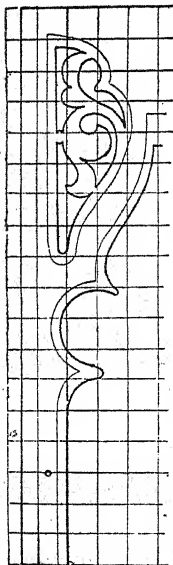


Fig. 3—The frets design

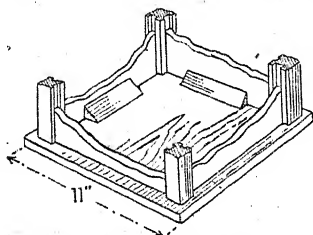


Fig. 1—Underview of top

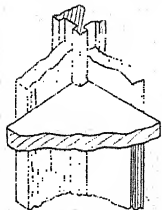


Fig. 4—Corner detail

setting out the boards, the interior work should be either drawn out direct on to one of them or drawn on paper by means of the squared diagram (Fig. 3).

In this figure half only of the design is given, the other half being obtained by tracing and transferring over the centre line. Once the outlines of the design are obtained on tracing paper, they can easily be transferred to the panels of wood by carbon paper.

In cutting off the lengths of the corner moulding, allow about $\frac{1}{16}$ in. extra beyond the 18 ins., so when the panels are glued in, the whole table can be held upright on a sheet of glasspaper and the top end and the feet end rubbed down, making a perfectly level seating.

The top of the table is an 11 in. square of $\frac{3}{4}$ in. wood held to the sides by means of gluing blocks (Fig. 1). The square edges of this top should be lightly papered off.

The Shelf

Any shelf is fixed between the legs, and this should be 9 $\frac{1}{2}$ ins. square, with the corners notched to fit round the corner moulding (Fig. 4). To get a really good fit for this shelf, take the measurements direct from the table, so far finished. Drop it into place between the legs and finally fix it with countersunk screws.

For the decoration of the table we strongly recommend the use of the small tins of Hobbies Enamel which are sold at 3d. each. The matt enamel should be used in preference to the glossy for this job, and small camel hair brushes are better than the stiffer variety.

Cutting List

- 4 panels 18 ins. by 9 ins. by $\frac{3}{4}$ in.
- 1 piece 11 ins. by 11 ins. by $\frac{3}{4}$ in.
- 1 piece 9 $\frac{1}{2}$ ins. by 9 $\frac{1}{2}$ ins. by $\frac{3}{4}$ in. shelf (optional).
- 4 pieces No. 38 grooved moulding 18 $\frac{1}{2}$ ins. long.
- 1 2 ft. length of $\frac{3}{4}$ in. triangular fillet.

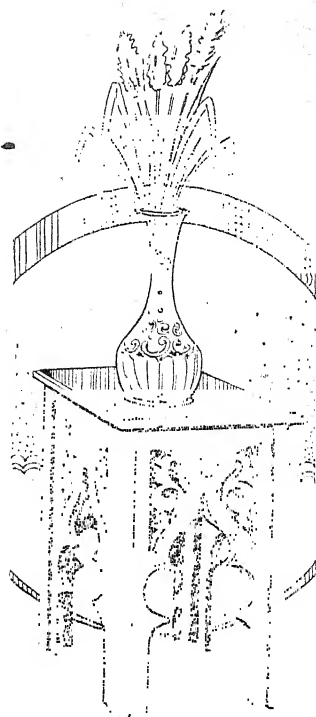
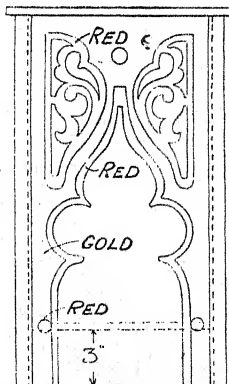


Fig. 2—Side detail



A BATHING OR SURF BOAT

HEAPS of fun may be had at the sea-side, on lake or river, or any place where bathing is indulged in with a bathing boat of the kind described here. It is small enough to be stored in a beach hut, and light enough to be easily transported by hand or car.

Above all, it is so simple and inexpensive to make that almost every bathing enthusiast may possess one. The drawings, besides showing the boat completed and in use, fully illustrates the method of construction, and suggests sizes for a handy craft for general use. If it is thought that a larger boat would be desirable, the length could be increased up to 8ft. with but very slight increase in width.

As the craft should be kept as watertight as possible to give the greatest buoyancy, it is essential that wood of fairly sound quality should be used. Deal is quite good enough, but it should be free from shakes, and large knots which may be liable to drop out.

Principal Materials

The chief items in the way of materials are four 6ft. by 1ft. boards, which need not be more than $\frac{3}{4}$ in. or $\frac{1}{2}$ in. thick. These are used for the top and bottom, and all the other material is only required in narrow widths. A depth of 3ins. is suggested between the top and bottom, but for greater buoyancy this could be increased to 4ins.

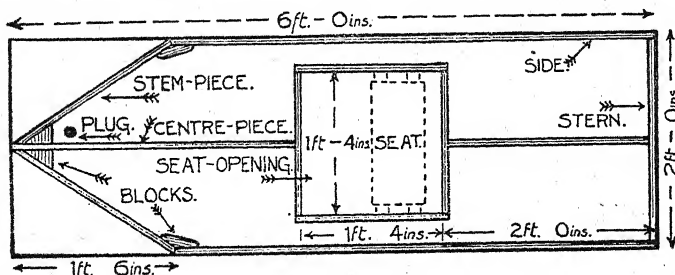


Fig. 2—Plan with dimensions

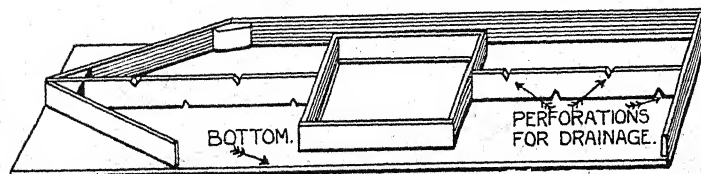


Fig. 3—The construction being commenced by nailing the edging to the bottom

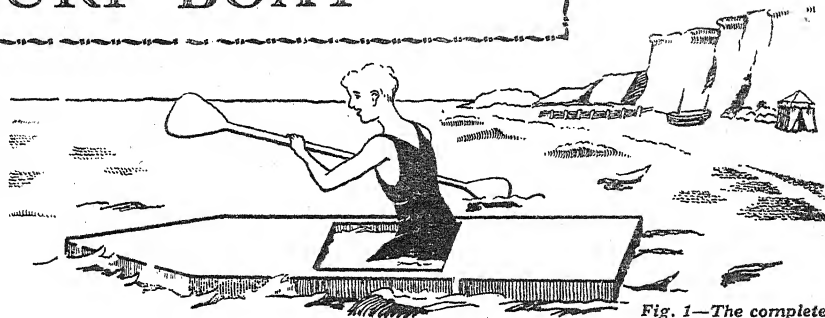


Fig. 1—The completed boat

Two of the 6ft. boards are first taken and laid out edge to edge. A couple of light battens could be temporarily tacked on at the ends to hold them together, and a plan of the boat is set out as shown at Fig. 2.

Measure 1ft. 6ins. from the front and mark the shape of the tapering stem, and 2ft. from the back set out the seat opening 1ft. 4ins. square. The edge framing of 3ins. or so stuff is then built up on the bottom.

Begin by fitting around the edging of the seat-opening, nail the sides to the ends, and nail the whole through the bottom. Then prepare centre-pieces to run from the seat-opening forward to the stem, and aft to the stern. Small perforations or notches about $\frac{1}{2}$ in. deep should be cut in the edges of these pieces, as shown in Figs. 3 and 4, and they are fixed exactly over the joint between the two bottom boards, nails being driven from each in a slanting direction into the centre-pieces.

Stern Pieces

The stem-pieces are next carried from the end of the forward centre-piece back to the edges of the bottom, and the straight sides are also fitted. To make the joints watertight and strong, blocks could be fitted on the inside as shown in the drawings, nails being driven from the outside to secure the blocks while a heavy hammer or iron weight is held inside.

Stern Piece Fitting

Lastly the stern-piece is fitted between the sides, and nailed through them and to the centre piece, as well as through the bottom.

With all the edging-pieces fixed, the front ends of the bottom boards could be sawn off level with the stem-pieces, and the seat-opening out in the bottom level with the edging. Before the other two boards are taken and nailed down it will be advisable to give the whole of the

inside woodwork two good coats of paint, allowing time to dry between each.

Trimming

When the top boards have been nailed down, the waste at the stem could be sawn off, and the seat-opening trimmed around level with the edging.

However well made the boat may be, it will be found that a certain amount of water will probably work in through the joints, and it was for the purpose of draining this off that the perforations were cut in the centre-pieces. These allow water to pass freely from one compartment to the other, and a plug-hole should be bored just clear of the blocks at the point of the stem.

If the boat is then tilted on end occasionally, the water may be drained off. A screw-top from a bottle is very convenient for fitting as a plug, if a hole is bored, a little smaller than the screw-top, it may be worked into the hole and unscrewed as occasion demands.

If the wood in the top is very slight, a capping piece of wood may be nailed on to make a greater thickness for the screw-top to be worked into.

The Seat and Paddle

A seat 1ft. 2ins. long by 6ins. wide is fitted in the seat-opening, and is attached to the boat with two strips of canvas or webbing, which are nailed

under the board and carried up a few inches as shown at Fig. 5 to enable the ends to be nailed above the seat-opening, the nails being driven down into the edging and not simply into the top board which would probably cause leakage.

A canoe pattern paddle is necessary for propelling the boat. It may be made as shown at Fig. 6, with a 6ft. to 8ft. pole from 1in. to 1½in. diameter, the ends being flattened as shown at A,

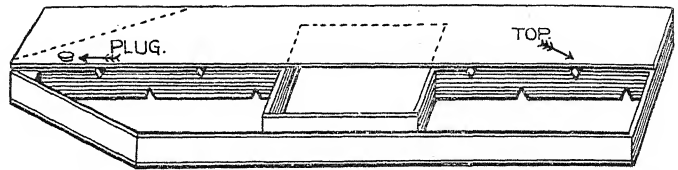


Fig. 4—The construction being completed by nailing on the top boards

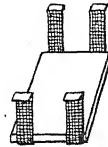


Fig. 5—Seat

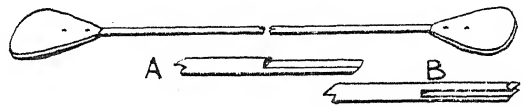
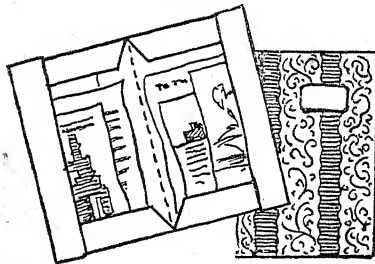


Fig. 6—Paddle

or slotted as shown at B, for the reception of two wood blades, about 6ins. in length and width, shaped as shown, and fixed with screws.

The boat should be painted on completion, and at frequent intervals after, to keep it watertight and present a good appearance. Light colours such as primrose, grey or sky blue are always best for crafts of this kind.



HANDY POCKET CARRIERS

FOLDERS for storing reference letters, diagrams, plans, cigarette cards, papers and so on, are extremely useful to have, and can be filed away alphabetically, so that required data may be quickly located when wanted in a hurry.

The diagrams show an easy method of making good practical folders which hold the material inside in place, so that loose papers inside are not so liable to fall out, as if they were only enclosed in a folded sheet of paper.

These folders can be made any shape or size required, but the easy principle of making is exactly the same.

The Paper Shape

The right diagram, Fig. 1, shows how simple it is. Rule out the correct size, then rule a wide margin all round the outside.

Cut out the paper, bend down the centre and all along the dotted lines evenly. Fig. 2 shows how

it should look when finished. Cut out V shaped pieces in the middle, above and below—this makes for easy closing.

Make up the folders in not too thick brown paper—white, coloured—as you will. Wallpaper too is good, provided the paper is not too thin. Make a whole series, and label them all neatly. Keep different colours for different groups of subjects, for this makes finding things so much more easy, and good system saves a great deal of time in the end.

A wooden box provides a good filing cabinet, and this can be glasspapered down and either stained or painted, and will be found most useful for keeping the folders in good order.

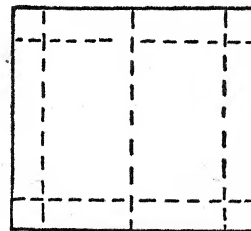


FIG 1

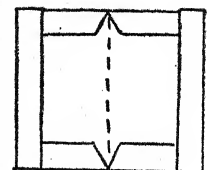


FIG 2.

AN ELECTRIC LIGHT FOR THE DOOR BELL

THE need for a small light indicating the position of the electric bell push on the front door at night is often felt. Strangers to the locality are compelled to grope in the dark when in ignorance of its exact position, and it seems odd that no standard trade fittings of a suitable kind have been brought out amongst the many conveniences in the way of electrical fittings for the householder.

None of the manufacturers of electrical accessories appears to have anything better to offer than a small wall bracket with a $2\frac{1}{2}$ inch projection to take the usual metal reflector and a 25-watt lamp. Such fittings are needlessly large and cumbersome, neither can they be considered weatherproof.

Economical Consumption

The little device here described and illustrated has been got out to meet the requirements in a better way, as it is unobtrusive, weather-protected and economical, both in construction and in use, as it consumes less than 2 watts and can be used for 500 hours at the cost of one unit of electricity. Its position and appearance when fixed to the door post just above the ordinary bell push will be gathered from Fig. 1.

The outer casing being of wood can be polished, painted or otherwise matched up to harmonise with the remainder of the decorations.

No light is directly visible, but the underside of the casing is cut away for the rays from a small electric bulb to emerge directly upon the bell push below, and nowhere else.

Construction Details

The lamp itself is a flashlight bulb taking less than 2 watts, but is ample for the purpose, while the material for the whole fitting need not cost more than half a crown.

Figs. 3 and 4 contain details of its construction in plan and section. The parts B, C and D representing the lamp bulb, lamp bracket and contact piece, are fixed to the door post itself, over which is screwed the wooden casing A, enclosing the whole in a dust and watertight cover. The window at the bottom is protected by a strip of clear mica or celluloid sheet E. A hole drilled through the door post at F admits the two connecting wires attached to C and D.

The Base Work

Part A, which is all in one piece, can be made of beech, American walnut or mahogany, according to the colour and finish required. The square base is $3\frac{1}{2}$ ins. by $3\frac{1}{2}$ ins. and the overall height to the domed top $1\frac{1}{4}$ ins. The walls of the rounded portion can be $\frac{3}{16}$ in. thick, the whole being a simple job in an ordinary wood-turner's lathe.

A gap is cut in one side of the block as a window,

and four holes drilled at the corners to take $\frac{3}{8}$ in. No. 6 round-headed screws for fixing it to the door post.

The Bulb Lighting

Part B is a flashlight bulb with a miniature Edison screw cap $\frac{3}{8}$ in. diameter, the bulb itself being 15 millimetres diameter and taking 8 volts 0.2 amperes. This size of bulb would be generally used when the bell is operated from an alternating current bell transformer, but where lower voltage batteries are installed, the lamp voltage may be reduced to 6 or even 4 volts.

Bulb Carrier

Part C is a brass angle piece for carrying the bulb, consisting of a strip 2 ins. long, $\frac{3}{8}$ in. wide and $\frac{1}{8}$ in. thick. This is bent to a right angle, drilled and tapped with a $\frac{3}{8}$ in. Whitworth thread on a centre $\frac{1}{2}$ in. from the base, the other arm being tapered down to $\frac{3}{8}$ in. wide and drilled to take two $\frac{1}{8}$ in. No. 4 fixing screws.

A small brass washer under the head of one screw is added for fixing one of the terminal wires. The bulb, when screwed home in this bracket makes contact with one end of the filament, the other end of the filament being connected to an insulated centre stud projecting slightly at the end of the lamp cap.

Part D is for the purpose of making contact with this stud and so completing circuit through

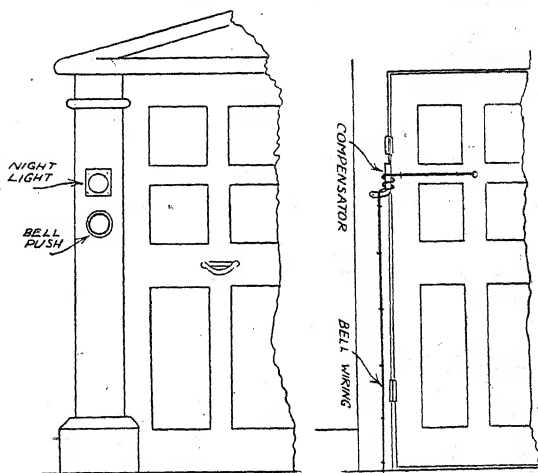


Fig. 1—Light in position

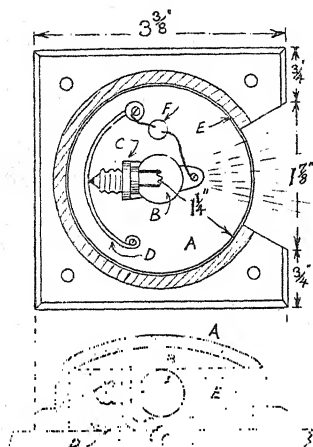
Fig. 2—The Door Wiring

the lamp. It is bent up from stout brass wire about 14 gauge. Double the wire back upon itself in the middle, and $\frac{3}{4}$ in. down spread the two ends oppositely at right angles. Afterwards curve them round and finish into small eyes where they can be fixed to the post by wood screws, at the same time being completely inside the casing A. When the

lamp cap is screwed home its end contact stud should press firmly against the vertical portion of part D.

Forming the Window

Part E, as explained before, is a strip of clear mica or better still celluloid sheet $\frac{1}{32}$ in. wide by $\frac{1}{32}$ in. thick, fitting closely against the interior of A and forming a window at the bottom for the light rays to pass through.



Figs. 3 and 4—Plan and section of the completed article

When an electric bell is operated from an alternating current bell transformer, the circuit connections will be those indicated by the outside lines of the diagram in Fig. 5. The secondary of the transformer usually has "tapping points" or terminals enabling current to be taken at either 4, 8 or 12 volts, according to the requirements as to the length of circuit and size of bell.

Eight volts is an average figure and the lamp bulb should be chosen to suit the voltage on which the bell is being worked.

The inner lines of the diagram Fig. 5 show the additional wiring needed for the bell push illumination, and it will be seen that a small on-and-off switch is included in this portion of the circuit so that the push light can be switched on only at night and cut out in the day time.

The small 1-way switches sold for wireless are quite large enough for the purpose, or any of the 3-ampere lighting switches as used for ordinary installation work, if nothing smaller can be obtained.

Bells from Cells

In cases where the bell is rung from an ordinary battery of Leclanché cells, a slightly different arrangement of the wiring is needed. A "wet" battery of this type is unsuitable for giving the constant current required by even a very small lamp.

Fig. 6 therefore shows an independent circuit

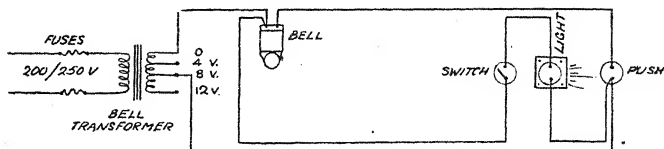


Fig. 5—Wiring circuit using bell transformer

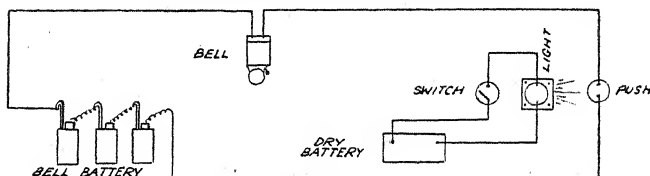


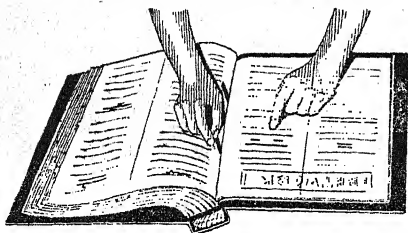
Fig. 6—A circuit for use with battery

for the bell push illuminator, in which the source of current is a dry battery.

In certain instances where bell pushes are fixed to the front door itself, a little difficulty arises with the wiring, since the connections must be sufficiently flexible not to break as the door opens.

Fitting a Compensator

Fig. 2 shows how this difficulty can be met by fixing a "compensator" which is a short right-angle bracket of $\frac{1}{4}$ in. brass rod attached to the inside of the door post, with its vertical portion as nearly as possible in line with the hinges of the door itself. Three or four turns of bell wire coiled round this will give quite sufficient flexibility to avoid any risk of breakage in the wires, as the door opens and shuts.



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will then remain firm and in perfect condition.

Clothes Hangers

Clothes get in bad condition in camp if thrown on to the ground at night and are rather apt to gather a good deal of damp into them. Carry a hanging wardrobe and run no risk of catching cold from this cause!

Cut a smooth, round stick, about 2ft. long, and make a shallow notch at both ends. Tie the end of a length of strong string into each notch and hang the loop so formed over a screw-hook fastened into the tent pole.

Hang your clothes as you take them off over the stick and they will remain out of harm's way all night. In the daytime this hanging wardrobe is handy for drying towels on.

Metal Cooking Hooks

Most campers have tried the bent green stick for hanging the cooking-pot over the fire and found that it has a nasty habit of burning through, and spilling the contents of the pot. Try, instead, an aluminium pot hook, which is quite light to carry and easily made before you start from home.

Make a shallow box of wood, about 30ins. long and 4ins. wide and fill this with a mixture of

3 parts fine sand and 1 part cement mixed dry and then made to a plastic condition by adding water and mixing well.

Allow the filling partly to set and then neatly mark out the shape of the hook as shown in the drawing, making it about $\frac{3}{4}$ in. wide and the same depth.

The Shape in Cement

Allow the cement to set quite hard and gather together all the scraps of aluminium you can get hold of. Melt these in an iron ladle over the kitchen fire and when quite molten pour the metal into the cement mould.

As soon as it has cooled, prise out the rod and trim up round and smooth with a file, shaping the lower end to a point for pushing into the ground.

Lots of aluminium gadgets can be cast in a similar manner and will be found to give much better service than those of wood.

Tent pegs are easily made in this manner, as are also the guy slides used for tensioning the ropes, while a number of small, hooked rods, similar in shape to the pot-rod, will be found of great help in pegging down the valance and entrance of the tent on a windy night.

Tools—and their user!

“**H**ANG this saw!” we snort when, in cutting through a length of wood, it goes off the line to leave lumps that must be planed away needlessly and—worst of all—consequent hollows which mean reducing the wood considerably beyond the required width to correct.

It may be a new, expensive saw, with nothing wrong with it. But, it is only human nature to put the blame on anything but ourselves. “Hang me!” would be a more apt expression, and there is an ideal reason behind it—self-criticism.

If a Saw Could Speak

If only a saw could speak, it might say: “Oh, please, master, I am not to blame. I am a good saw and will go where I can go. Sometimes you force me too rashly into wood and I stick and even squeal warning protests. But, despite my appeals, you make me slave the harder, almost buckle me in two, and though faithful, you curse me when you guide me wrongly. Please, master, be more careful, and treat me properly and more kindly...”

The word of the saw is as true as that other old saw which tells us that a man is a very poor worker who must blame his tools all the time. Do you censure your saw and other implements you are using when anything goes wrong? Are they cheap, inferior tools so that you are justified in censuring them?

Those are two very important questions. With first-class tools—tools that are properly cared for and in the best working condition, any blame that's going, rests on the shoulders of the worker. It

must do so, for each implement has its own pet way in which to be handled.

If you are doing a rush job and thus inclined to be impatient, the saw can't help it if you go repeatedly off the line or even split the wood. It is not to blame if you find it buckled, blunt or badly set—if you do your own teeth-setting and sharpening.

It's your job, as the owner, to see that such things are corrected without delay as soon as discovered. If the tools are borrowed, blame the lender, but never the tools.

Get into the way of blaming yourself, and with a guilty conscience, your kit will gradually get into such good order that all the fault-finding johnnies in the world would have nothing to say against them.

Bear this in mind!

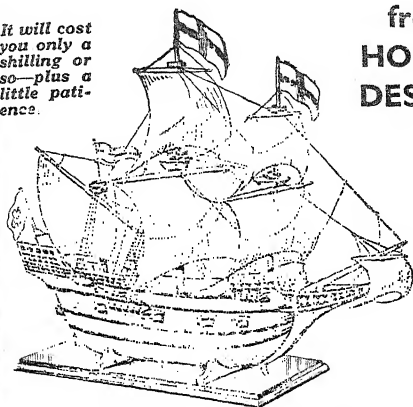
Think, too, of the better and quicker you can turn out the work with really sharp and well-kept tools. There is no time lost hunting for them, moreover, if you keep them in a rack at your elbow and get into the habit of replacing each one in its own place.

Habit is a wonderful thing, but there are good and bad habits, and blaming good tools is one of them. Keep them in trim and learn how to use each item to advantage.

A saw will cut easier and better without undue pressure. It won't get out of line if you control it. Being the master, you must master your implements or they will master you.

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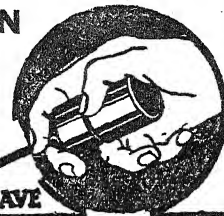
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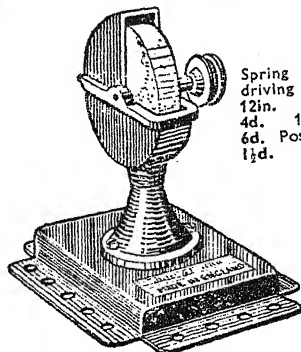
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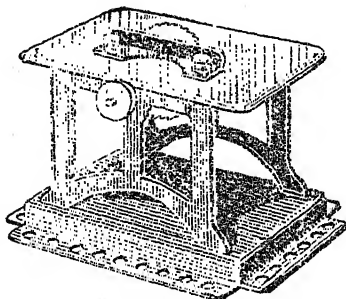
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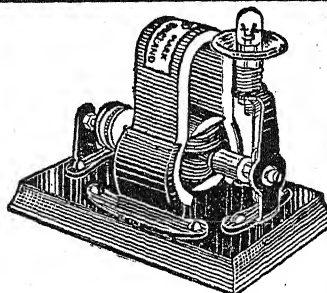
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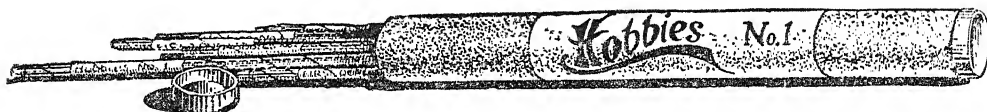
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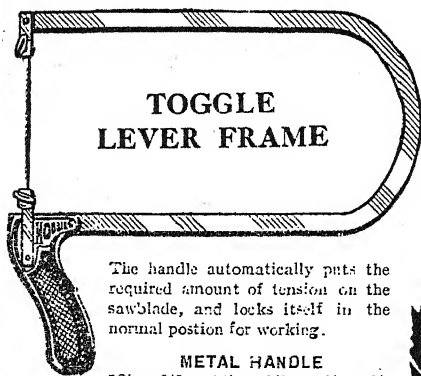


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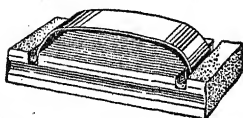
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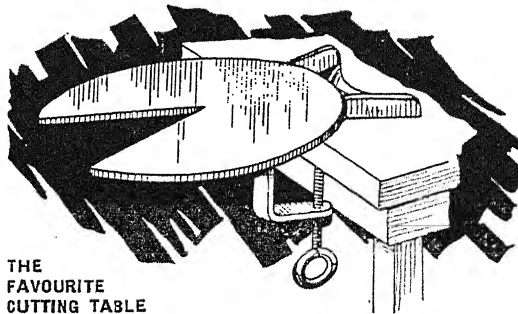
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BATHING IN SAFETY

IT is strange that with so healthful and enjoyable a recreation as bathing there should be so many ill effects and real accidents. Many bathers catch chills, and worse, in swimming pools and at their seaside dips, and the newspapers throughout the summer record drowning fatalities almost every day.

Yet bathing can, and ought to be, perfectly safe. Accidents and harmful effects are unnatural, and are almost always caused by carelessness, recklessness, or ignorance.

There is no excuse, for instance, for the bather who, knowing the danger, deliberately takes his dip immediately after a heavy meal and so gets cramp in the stomach, perhaps with fatal results.

Interval after Meals

Almost every intelligent bather knows, or should know, that he should not go into the water during the two hours following a meal. Yet the ignoring of this simple rule causes more drownings annually than anything else.

There are three principal ways in which you can help to make bathing safe this summer. First, by observing the rules of proper bathing yourself; secondly, by encouraging safety precautions in your local bathing places; thirdly, by knowing what to do when bathing accidents do happen.

Useful Hints

First, you must be a *good bather* yourself. Do not begin a bathe when you are exhausted from exertion, or shivering, or cooling after heavy perspiration. These things are likely to cause chill.

Get into the water quickly—and do not stay in too long. Come out in a glow, never when you have become chilly. Staying in too long is the commonest cause of headaches and colds afterwards.

There is no harm in bathing when the water is cold, providing you go in quickly, and come out before you get chilled. When you come out have a brisk towelling to stimulate the glow set up by the body's reaction to the cool water.

Not Too Often

It is not wise to bathe several times a day. Once is enough for almost anyone. The early morning dip is very stimulating, but it does not give any chance for the leisurely sun bathe which can be had later in the day.

Should your fingers ever go numbed or white after or during a bathe it is a sign that you have had too much. If even the briefest dip brings on this trouble then it is advisable to get a doctor's advice about it.

When you are a novice, and when you are an expert too, be careful about swimming straight

out from land. Folk sometimes forget to make allowance for the return when they are more tired than for the outward journey. At the sea it is always unwise to bathe with an outgoing tide, especially at an "unofficial" bathing place.

You should certainly never bathe when you are quite alone, or from any unknown piece of coast, no matter how attractive the water may appear—rocks, currents, weeds, or quicksands, may be there unsuspected.

Unknown Depths

There is danger in wading into unfamiliar water with arms held high above the shoulder level—if you should step into an unsuspected hole you would go straight down. Keep the arms low.

In the swimming bath be sure that you know which is the deep and which the shallow. Do not risk diving into anything less than six feet of water—and even then be quite sure that no other swimmers are in the way before you launch yourself from bank or board.

If you happen to be bathing with a large party it is a very good plan for all to divide up into couples. Each person then can be responsible for the safety of his or her companion—and no-one can disappear or get into difficulties unnoticed.

Take Precautions

The second way of making bathing safe is to encourage proper safety precautions at the bathing place you attend. It sometimes happens, particularly in small places, that local authorities, or the owners of the bathing place, have done nothing in this direction.

It is easy enough to keep a few lifebelts or inflated motor tyres on hand. There can also be a rope, and a long pole with a hook on the end—a large iron hook covered with a bit of rubber tubing. Water depths should be clearly marked.

Cleanliness

Cleanliness of the bathing place and purity of the water are recognized as of great importance nowadays—but not all bathers observe cleanly habits and so help to maintain ideal conditions in the baths they frequent.

Spitting, for instance, and cleansing of nose and mouth in the water, are most objectionable.

One common cause of contaminated water is the dirt carried into the pool on bathers' feet and bodies. In the most modern pools every bather is compelled to have a wash before beginning his bathe, and no people are allowed to walk with their shoes on around the bath edge. With clear and clean water the danger of accidents or infection is greatly reduced.

Thirdly, to make bathing safe—learn how to help any in danger.

When you go for a bathe you should look round

and consider what steps would be practicable in a sudden emergency. Where is nearest boat, rescue appliance, attendant? How could you get most quickly to any likely danger spot? Would you be able to act yourself—or fetch someone else?

A Human Chain

On a shelving beach a human chain is often very useful in rendering assistance. Those taking part stretch out, with clasped hands, and with the tallest and strongest at the seaward end. The drowning person can then be seized by this one, and the whole line can retreat to safety.

Should you have reason to throw some support to a person struggling in deep water be careful not to cause injury.

How to Throw a Buoy

Try to make the buoy, plank, box or whatever the object may be, to strike the water just in front of the person, so that it attracts attention and drifts against his chest where it can be seized.

When an accident occurs in a narrow river or bathing pool a rope can often be held by two people, one on either side of the water, and dragged along the surface until it is clutched.

When a person is being helped from the water into a boat it should always be by way of the stern, not over the side.

The most fascinating sort of preparedness against water accidents, however, is life-saving knowledge. You can begin to acquire this as soon as you are just a moderate swimmer. There is no branch of swimming more interesting. Get a companion of like mind and go ahead to practise every sort of towing method and way of releasing yourself from the clutch of the drowning.

Towing a Helpless Person

The commonest of all ways of towing a helpless person to safety requires back-stroke swimming. You lie on your back, holding the other person also face upwards, above you. His arms are gripped just above the elbows, so that even if he struggles he cannot get loose or seize you.

Thus you swim head-first, using a plain leg kick—legs driving out; sweeping together; drawing up. Your own arms will be sharply bent and your elbows pressed into your hips.

A good plan is to study for the tests of the Royal Life Saving Society—full information can be had from 8, Bayley Street, London, W.C.1.

You must do surface diving too—fetching objects up from the bottom of the water, with eyes wide open—and generally rehearsing every sort of rescue in as realistic a fashion as possible.

So, in all these ways, you will make yourself a good bather, and help to make bathing safer for others.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

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SCOUT NEWS FOR JULY

High Tea

THE title to this paragraph reminds me of the story of the caddie who asked the Golfer if he liked a high tee to which came the astonishing reply "Never you mind whether I like a 'Igh Tea or a Fish Supper you put the ball on the 'Ump."

That's all by the way. The idea is this. Inform your Patrol that stores are running low and that all you can provide for tea is a mug of tea and some bread. You want them to go out and see who can get something grown by nature which together with the bread will provide them with quite a good tea.

Prizes should be awarded and you will be surprised at the fun this will cause. Be warned however. Do not let your boys eat anything until you have given it the O.K.

N.B.—A good tea is appreciated after this.

Have you forgotten?

WHAT about those dixies and other camp gear you used last year; are they still in the store cupboard? If so get them out at once and clean them up in readiness for this year's camping.

Dixies will have rusted a little and this should be cleaned off with damp ashes so they shine like new. Bend the lids into shape again, as that drum and comb band at last year's camp did not improve the shape. Then hand them over to the troop tinsmith for any other repairs, including soldering up the leaks and tightening or replacing the handles.

Then dry them thoroughly and grease the insides to prevent them rusting again and you will be ready to camp again at a moment's notice. Now is the time to replace breakages and loss.

A good evening's work is the pitching of all the troop tents for inspection and general repair. It also gives the recruits practice in tent pitching and at the same time stirs the imagination to all the good things to come.

Nature's Alphabet

HOW often when you are hiking do you come across sticks or twigs which look like some letter of the alphabet and it is a fine spare time activity to collect these and if the whole troop is on the look out for these it ought to be possible to get a complete alphabet.

A set such as this looks very nice glued to a Hobbies Scout Board like the one just issued on the uses of the Scout Scarf. It is a real Scouty addition to your clubroom, so buck up and begin to collect.

You need not confine your collecting to letters but all sorts of queer shaped twigs would be interesting if glued to a board,

Camping Hints

THE best form of plate for camp is a soup plate, and it should be an enamel one and not earthenware. Aluminium is not recommended, as food rapidly gets cold on them while tin plates rust.

The same principles apply to mugs. Enamel ones are best as aluminium gets so hot that the cup burns the lips. Cups with folding handles are procurable and usually a half pint size is quite big enough.

Do not be too keen on a paraffin lamp at camp. The oil somehow always manages to get into the food and there is more danger of fire. Use small thick candles in a suitable lamp.

A good camp candlestick can be made by taking a good sized bottle of white glass and breaking off the bottom by putting in about two inches of water and standing it in the red hot ashes of the fire, when hot it will crack at the water line. Place candle in neck and invert the whole, bottom up, with the neck sticking into the ground.

The Appeal

THIS is the last month for helping with the appeal issued by headquarters for half a million pounds to form a fund to ensure the continuance of the Scout Movement. We all surely owe it to the Chief to attain that object, to give him his great wish that before he dies the finances of the great movement he has founded will be on a sure footing.

There are some who fail to see why the movement wants so much money but they little know the expenses attached to Training Courses, Text-books, Pamphlets, Legal and other business to mention but a few of the things Imperial Headquarters have to deal with.

Do not waste time but do your good turn for the scouts and induce others to do likewise.

What to Look For

FOX Cubs may be seen in July, although the cubbing season does not start for another month. Farmers will be busy getting in the hay and a good holiday may be spent helping the farmer who is often ready to accept help for keep. Great fun may be had at the end of a day's cutting catching the rabbits and other animals ejected from their temporary homes.

The end of the month gives the first sign of waning summer for Cuckoos and Swifts begin to migrate, House Martins will be starting on their second broods. Family cares are a full time job for most of the birds.

Many of the late summer flowers begin to bloom including—Heather, Rock Roses, Harebells, etc.

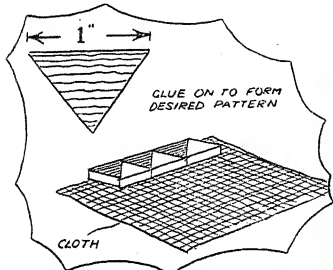
The Skipper



For original Tips published the sender will receive 2 dozen Hobbies Fretsaw Blades. We cannot acknowledge all those received or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

Using Waste Fretwood

FRETWORKERS usually have a lot of waste wood lying about, which is thrown away. Collect your pieces, and cut them



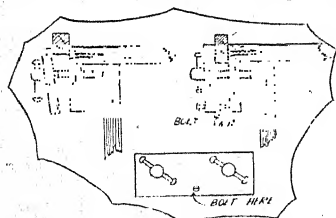
into triangular shapes, 1in. each side. Take a piece of strong linen or American Cloth and glue these on in a mosaic pattern. There you have some useful table mats.—(D. Linton, Forest Hill).

Ship Model Planking

FOR lining in planking on galleon decks, I have tried scribing lines 1in. apart, and melting black heel-ball on the deck. The surplus heel-ball is then removed with a scraper or an old plane blade leaving the lines filled. This may be a help to galleon enthusiasts.—(L. Smith, Southend-on-Sea).

A Vice Addition

HERE is a way to stop your bench vice tipping under, as in the diagram. Get a bolt and nut, say about 2ins. long. Bore a hole, just large enough for the bolt, through the centre at the bottom of the movable vice. Put the bolt through the hole and put



on the nut as in the diagram. The bolt is adjusted by turning to suit varying thicknesses of wood. (D. Madden, Twickenham).

Cleaning Paint Brushes

A GOOD and inexpensive way to clean paint brushes which have hardened, is to work them about in a strong solution of sugar soap of which a large packet can be bought for 2d. Mix the solution with hot water and keep the brushes moving. When thoroughly clean, rinse in cold water and your brushes will be like new.—(J. H. Benny, Croxley Green).

A Cellophane Use

A PIECE of cellophane pasted on a calendar picture will give the effect of glass. If the cellophane is crumpled, dip the fingers in water and rub over, and it will be very smooth.—(R. A. Holmberg Singapore).

SOLUTION TO LAST WEEK'S X WORD

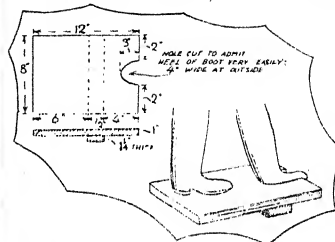
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Spirit Level

GET a block of wood 4ins. by 1½ins. by 1in. and gouge out a small trench in the exact middle about 1½ins. long, ¼in. deep and ¼in. wide. Then get some glass tubing ¼in. diam. seal one end, fill with coloured water about ¾ full and place a rubber cork in the other end. Place in groove. Now get another piece of wood 4ins. by 1½ins. by ¼in. and cut a hole in the middle about 1in. long, ¼in. wide, then screw it to the former block. Glasspaper over and your spirit level is made.—(C. Davies, Cinderford).

Wellington Boot Device

HERE is a simple device for taking off wellington boots, which will relieve the wearer of much worrying in the usual way. The board is made up to the dimensions shown, with a hole,



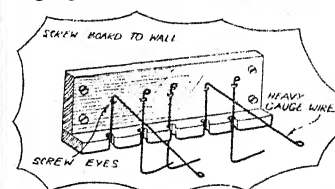
the shape of the heel, at one end. In use, the wearer treads on the board, which tilts, raising the notch away from the ground. The heel of the boot on the free leg may now be engaged in the notch, and the boot drawn off by pressing backward and upward with the foot.—(G. H. Dury, Daventry).

Removing Fretwork Patterns

TO remove patterns which are gummed to wood, apply a cloth saturated with warm water and a little vinegar. The pattern will easily peel off without warping or damaging the wood.—(H. G. Baker, Rock Ferry).

Handy Towel Rack

THIS towel or useful duster rack, can be made from two pieces of timber, screw-eyes and screws, and a few lengths of heavy gauge wire. It can be made to



any convenient size and painted to match where fixed. Use rustless wire and screw-eyes, otherwise give coat of good enamel to prevent rusting.—(W. T. Mainwaring, Pontardawe).

The EDITOR'S NOTES



AS promised last week I am able to give the names of and some particulars of the Maze Competition last month. There is no doubt this type is very popular because more entries than ever before arrived. Even one or two *after* the closing date, too, but they had to be disqualified. It is not always a case of "better late than never" remember! But in spite of the number of entries there were not many who could trace out all 30 of the various objects shown. Congratulations to those who did!

* * *

ANYHOW, I had to select the two neatest and best of the correct ones, and accordingly Thomas Hill of 27, Verdure Avenue, Bolton, is now the owner of a Gem Fretmachine, whilst a Guinea Swan Pen has been sent to J. A. McGirr, St. Mary's P.E.S., Divis Street, Belfast, for the next best effort. Consolation prizes have also been sent to P. Simons of West Ewell, Surrey and somebody without a name from 31, Bristol Street, Cargo Flat, Middlesbrough. One of these was a lyrical and clever piece of poetry introducing all the objects except one, whilst the other had made his into a tiny dummy book with a hollow inside containing the list.

* * *

ANYHOW, I know most of you would like to check off your entries, so here is the list. Oh, and by the way, these competitions are worth keeping for parties later in the year. Get a dozen of these Maze Pictures, paste them on a piece of card or plywood and you have novel little puzzles to hand round between other games. Lists of actual articles can be read or handed round later.

* * *

WELL, now for the list of thirty articles shown — turn the issue up to check off if you like — axe, armchair, toothbrush, electric lamp, jockey or cricket cap, football, boot, collar, handbag, shaving brush, fountain pen, candle, smoker's pipe, fretwork cutting table, electric iron, cup, can, hand-saw, dart, flag, domino, luggage barrow, feather, walking stick, glove, coal shovel,

teapot, corkscrew, hairbrush and hammer. Get them all?

* * *

TWO hobbies which are becoming more and more popular are canoeing and model aeroplane flying, and I am glad to find increasing interest by our readers. Because specially good writers on the subject are dealing with sundry matters for me and in consequence expert advice is available to all. Here are two items to make you joyful, for instance. Next week full details on how to build a strong and speedy Canoe, and the week after, plans and particulars of a full size flying Model Monoplane. As I say, both articles are written from experience gained in building the actual models. So you see it is not just "paper talk" as some people disrespectfully call it, but practical advice gained from practical experience.

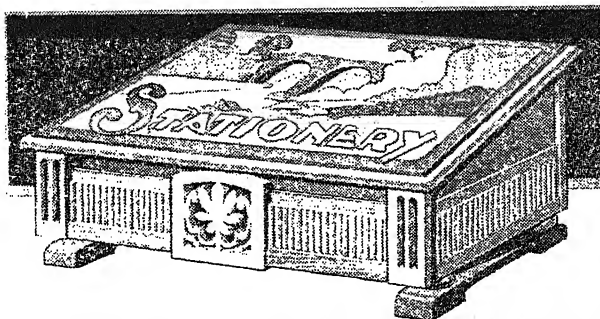
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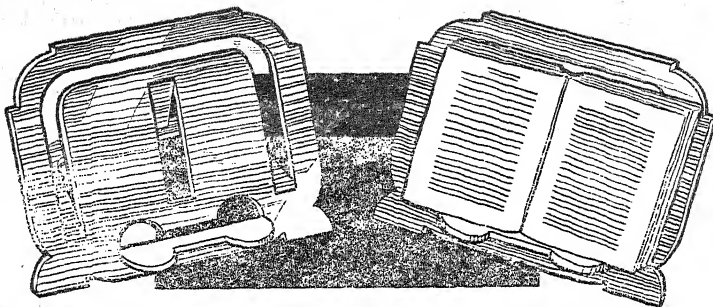
I DON'T know how many energetic readers have answered the call to the A.R.P. activities, but no doubt some will be interested in gaining knowledge as to what to do and how to do it in the event of air raids. Anyhow I hear from the Principal of the famous Bennett Correspondence College that they are now running a special course on the subject. From the specimen lessons sent me it is certainly interesting, and the College people are making a generous offer of free lessons to those definitely going to do something about it. Write to Bennett College, Sheffield, mentioning Hobbies Weekly, if you want more particulars.

* * *

IT seems that a number of Members of the Hobbies League have forgotten the usefulness of the diamond rubber stamp which has been specially prepared for their use. It is the same shape and wording as the name on the League Note-paper and is a very good thing to have. With it you can make your own business letter-heading, or use it to make bill heads and receipts for your articles sold. On the other hand if it is stamped on the back of your work it gives it the hall mark of a craftsman and shows that you are an enthusiastic worker. **The Editor**

Large free design next week STATIONERY BOX with wood inlaid panel





SIMPLE ONE-PIECE FOLDING BOOK REST

Full size patterns opposite

THE Bookrest illustrated is one which was originally thought out and cut in wood by one of our readers—Master G. R. Cooke of Norwich, and the actual article which he sent along for inspection certainly does him credit both for ingenuity and for workmanship.

We are sure, too, other readers will be pleased to follow his example and make one up for their own use. Even apart from this it is just the sort of thing to make for a Bazaar or Sale of Work or any Exhibition where one can offer goods for sale.

It is a novelty, compact and useful, which are three excellent selling arguments.

Complete Pattern Shape

A pattern is given on next page of half the article, and this must be traced again on the opposite side of the centre line drawn. The whole thing is cut from a single piece of wood 8ins. wide and 10½ins. long. It should be in plywood either ¼in. or ⅜in. thick and the different sawcuts are indicated by lines.

As all the pieces are utilised, the hole for threading the saw should be as inconspicuous as possible. Make it with a fine drill in one of the corners on the lines concerned. Cut along the various portions indicated then round off the edges as shown by the sections.

A long inverted U piece must have the ends of the "leg" portions rounded, the top end of the centre strut must be rounded, and the little ledge which falls forward along the bottom is also given a similar shape.

This can be done with glasspaper, but not rubbed sufficiently to make any alteration in the actual line of the edge.

Holding the Strut

Notice, too, that in the long U piece mentioned there is also a hollow V cut ⅜in. wide. Sink this into the wood at the angle shown so it provides a niche into which the bottom end of the support strut falls when the whole thing is open.

Now for the pivots which form the hinges allowing the various parts to open. The position of these pivots is shown on the drawing, and they are inserted across the parts concerned from behind. The pivots can be ordinary strong pins or fretnails with their heads cut off.

First of all drive the pins about ¼in. into the

edge of each of the pieces which have to move, leaving about 3/16in. projecting. Now take a chisel or similar sharp instrument and drive it to form a deep cut into the wood where the projecting piece of pin will come.

Pivot Pins

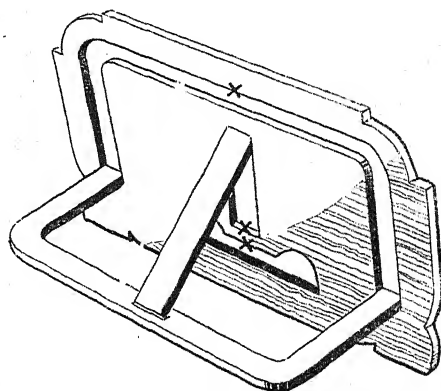
Sink the whole thing in place, forcing the pivot pin into the wood carefully without bending. If you have been able to lift up a little wedge with the chisel—like secret nailing in carpentry—the wedge can be relaid in place and glued to fill the gap again.

If there is any tendency for the pivots to come out through the cut, then tiny staples of fairly strong wire can be driven in over the pin itself. If you have made an ugly gash, then use a little plastic wood to fill up.

The back view given with the patterns illustrates how the article is in use with the centre strut falling back into place on to the U piece.

Book Shelf

The little platform at the bottom comes forward to form a bookrest, and this should be fitted fairly tightly in order to take the weight of the book without dropping too far forward.



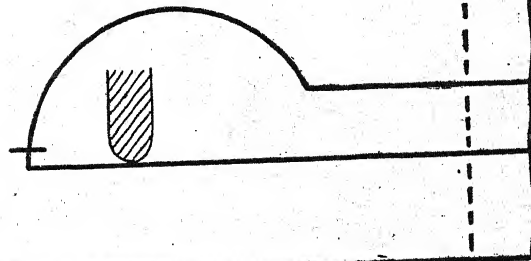
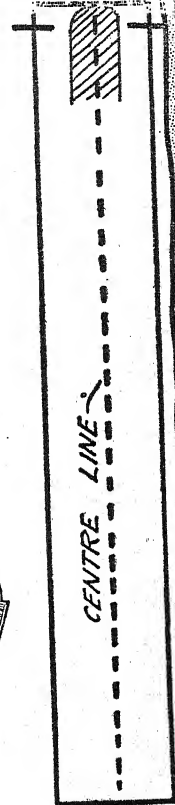
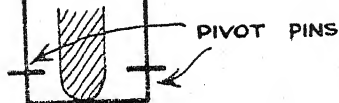
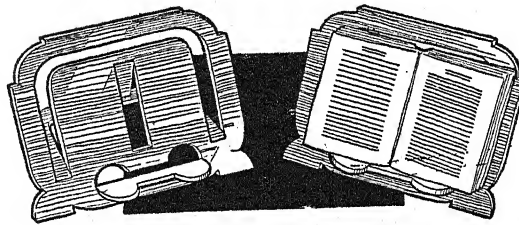
If there is any tendency for the parts to fall down when not in use, this can easily be rectified by putting in a small ball and catch at the points marked X in the back view. These, of course, are driven into the edge of the moving piece so they snap tight on to the actual wood.

Have you entered our July Photo Competition?

SHOWING HOW
A CAVED HOLLOW
IS CUT IN WOOD

Half Patterns for a NOVEL BOOK HOLDER

See opposite page



MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word per line. Name and address are counted, but initials or groups, such as "Hobbies Ltd.", 11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

LONELY? Then write Secretary, U.C.C., 16BB., Cambridge Street, London, S.W.1. Genuine. Establd. 1903.

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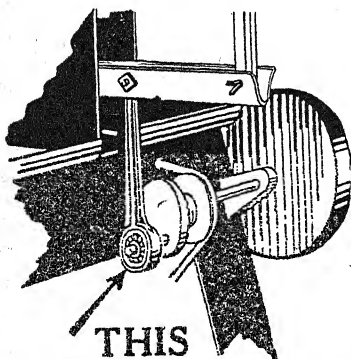
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PITMAN**

*Makes Treadling
almost EFFORTLESS*

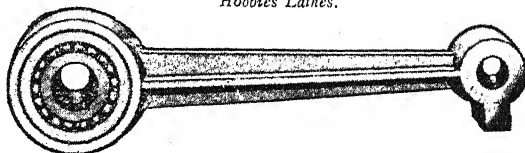
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When ordering be sure to state name of machine (Gem, A.L., etc.) to be fitted. This movement cannot be fitted to the Hobbies Lathes.



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DEREHAM, NORFOLK

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DESIGN SHEETS.

The presentation Design Sheet is given only with current copies of Hobbies Weekly, and not with back numbers. The designs, however, can be obtained separately, from Hobbies Ltd., price 4½d., post free, or 10d. in the case of double size sheets.

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CONTRIBUTIONS.

The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

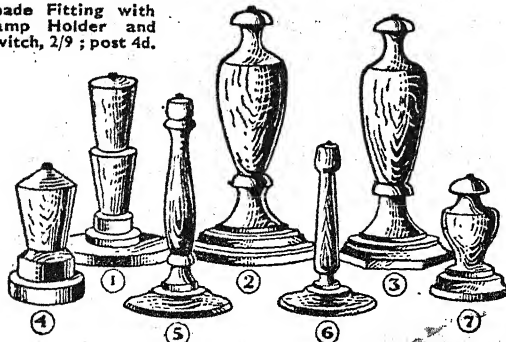
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Name

Gifts! Gifts! Gifts!

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One of these small Coupons and a stamp for 1½d. must be attached to your letter to the Editor, if you are enquiring about anything which demands an answer. Cut the Coupon out and put it in with your letter which should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk.

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| 14in. Solid .. | 2/9 | 16in. Hollow | 8/- |
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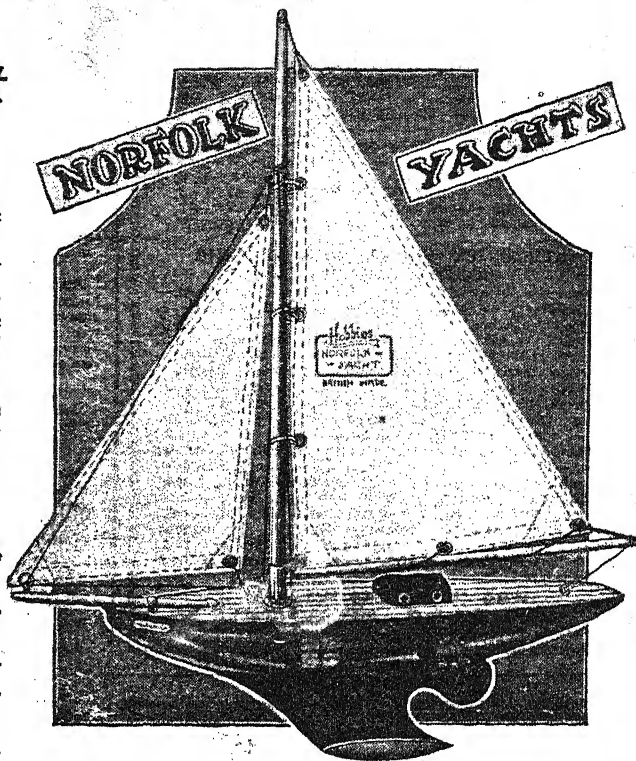
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Hobbies 'NORFOLK' Yachts



Holidays are here! For most boys this means fun on the model yacht pond. But what about the Yacht? Don't leave it until the last minute. Thousands of boys up and down the country are sailing Hobbies "Norfolk" Yachts. And how they sail! Go to your nearest Hobbies Branch or Agent and ask to see the "Norfolk" Yacht, and judge it for yourself. If you write to Hobbies Limited, Dereham, Norfolk, an illustrated list will be sent you.

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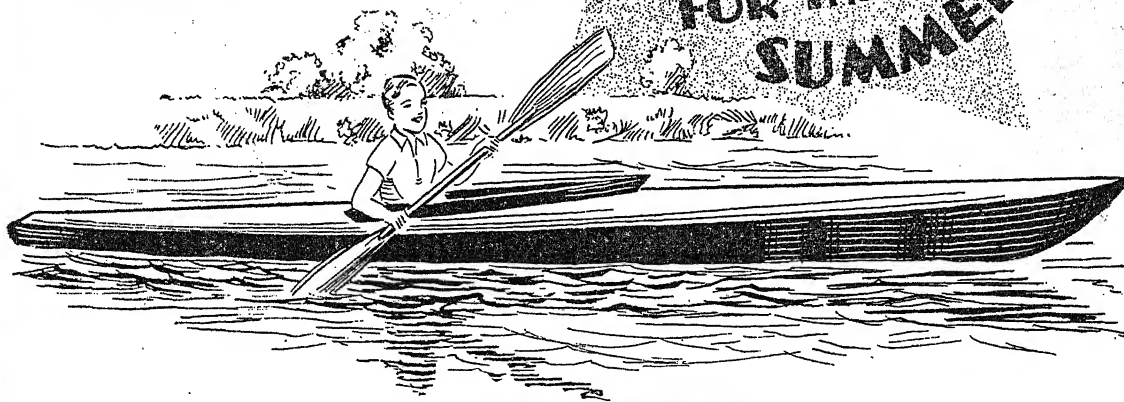


Hobbies

WEEKLY

A LARGE
DESIGN
CHART
FOR AN
INLAID
BOX

A
HOME-MADE
CANOE
FOR THE
SUMMER



July 16th. 1938

2^D

Vol. 86. No. 2230

THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL

Read what Users say about it....

Here is a fretmachine at a price within the reach of all. It is suitable for all kinds of woodwork, is easy to treadle and use, and provides a factory for you at home. Imagine the small toys, puzzles, calendars, etc. you can turn out on a mass production scale. Why, it will pay for itself before you know where you are. The only machine of its kind in the world at the price.

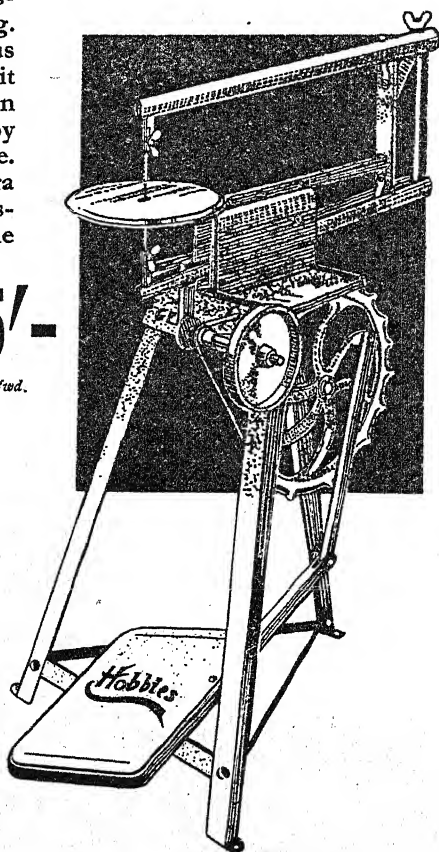
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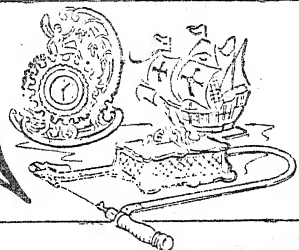
T.L.F. Epsom

GEM MACHINE



Hobbies

WEEKLY



July 16th. 1938

Vol. 86. No. 2230

I AM really holding my head up in the air and strutting about like a turkey cock at being able to talk to you again from the front page. You see, a little time ago I altered what is technically called the make-up and transferred my few words of wisdom (maybe!) to the other end and took the Hints and Tips page with me. But, behold, so many wrote in about it and were quite annoyed at the alteration. They said it seems a long way to go before they got to the Notes! So, of course, I must bow to your wishes and again write to you at the very beginning of the book. Thus we have the Notes first, then the Hints, and next the Fretwork Design of the week. Now we know where we are and what to expect each week!

TALKING of these Notes, I want you all to help me when you can. Little notes of interest from your district are always acceptable. Any special piece of work, or exhibition, or unusual hobby is of equal interest to other people, you know, so I would be glad if you can send me any details you think fit. A cutting from a local newspaper is helpful, or a picture of some outstanding feature applicable to hobbies of any kind. Bear this in mind, will you, and help to make our little weekly even more interesting.

THE Edinburgh Hobbies Club is a very active one, and various enjoyable visits to places of interest form part of its regular programme. The Members have, of course, been to the great Empire Exhibition, as well as to a printing works, a ship yard, and engine sheds, and I note that during this month they hope to visit the B.B.C. studios. So you see what enjoyment and interest you can get from a really go-ahead Hobbies Club. The Headquarters at Edinburgh, by the way, are at 33, Lauriston Place.

ONE of the special features for next week will be, as promised, details for building a new Duration

Flying Model Aeroplane. A blue print will help you considerably in construction, and I am assured by the expert who designed and built the original that it is a sturdy as well as speedy model. As he expressed it, the plane is just the one "for fair weather or foul," and proved so in various tests.

MANY of you will now be on holiday or planning one shortly and when you get to the seaside you will probably see various fine paddle steamers plying along the coast from one place to another. This class of boat is a type all its own and its distinctive lines make it recognisable anywhere. It makes an excellent model, too, and I hope shortly to be able to provide a design sheet and full instructions for making one driven by pocket flashlamp batteries. The steamer will be one of those popular "Eagle" type so well known on the Thames and south-east coast and run by the General Steam Navigation Co.

THE same company, by the way, now run an extended service between several seaside resorts and Ostend, which are proving very popular with holiday makers. Of course, the steamers are then much larger boats, turbine driven and capable of carrying over 1,000 passengers. They provide a delightful trip for anyone liking the sea, with modern comfort and accommodation. An announcement in our issue of July 2nd gave the address from which further particulars are obtainable free on request.

CONTENTS

GIFT DESIGN—Inlaid Stationery Box

| | |
|---|-----|
| Hints and Tips | 362 |
| Stationery Cabinet, with inlaid lid | 363 |
| A Canoe | 365 |
| Small Fretted Pen Rack | 367 |
| Child's Seat and Toy Box | 368 |
| Making Invisible Inks | 369 |
| Garden Ornament in Wood | 370 |
| Hiking Cross Word | 371 |
| Fretwork Notes | 372 |
| How to Adjust your Cycle | 374 |
| Glazing Photographic Pictures | 375 |
| Lady's Powder Bowl | 379 |
| Scout Patrol Lockers | 380 |
| Games for the Holidays | 381 |
| Pen Rack Patterns | 383 |

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates. Publishing, Advertising, etc., are on cover iii.

DID you know that Mr. Henry Ford, the famous motor car manufacturer, is said to have the finest collection of gin bottles, which he has amassed, besides a fortune, as a hobby. At least that is what we are told in the same source as I learn an author wrote a series of five publications in each of which a different vowel was omitted throughout.

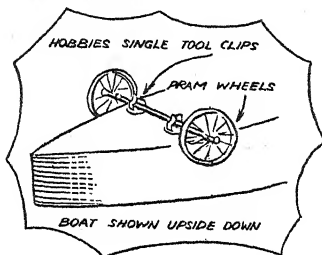
The Editor



For original Tips published the sender will receive a Hobbies Handy Propelling Pencil. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketch if possible.

Portable Canoe

I HAVE started work on the all wood canoe given in Hobbies and I know that I shall never be able to carry it down to the river, so I obtained four Hobbies single



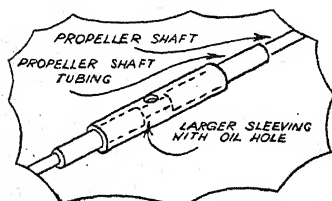
tool clips and two pairs of paramulator wheels with spindles. I will screw the clips to the bottom of the boat and the spindles will clip in. When the river is reached the canoe can easily be detached.—(W. Millar, Selkirk).

Straight Fretcutting

A GOOD idea for cutting straight lines in wood is to place a rule along the line that has to be cut. Then take a penknife and run it a few times along the edge of the rule to make a groove in the wood. This keeps the sawblade steady and so gives a perfectly straight line.—(J. Ormiston, Leeds).

Lubricating Propeller Shafts

I HAVE overcome this by cutting the propeller shaft tubing through and refixing in a larger



sleeve leaving about a 1/4 in. of space. Through the larger sleeve is drilled a hole about 1/4 in. diam. for oiling purposes. This I have found to be very effective.—(R. W. Harbottle, Plumstead).

Shoe Lace Tips

THE metal tags on the tips of boot and shoe laces have a very unhappy knack of coming off, long before the laces have worn out. Threading them through the eyelets is then a tedious job. Here is a good hint. Get some black or brown sealing-wax, melt it until it is just plastic, and not running, and dab a small amount on the tip of the lace. While it is still warm, mould it to a point, by squeezing between the fingers.—(G. Hollis, Selsdon).

Flattening Oilstone

AFTER constant usage a hollow appears in an oilstone. The surface of the stone can easily be trued up by rubbing it on a flagstone moistened with a paste of silver sand and water.—(J. Butler, Hendon).

Chemical Gardens

AN interesting addition to the article on chemicals garden in Dec. 18th, 1937 issue of "Hobbies Weekly" would be to add a good-sized crystal of potassium permanganate (K Mn O₄) to a solution of copper sulphate (CuSO₄) when a new kind of "plant" will grow after some hours.—(J. Linehan, Glanmire, Co. Cork).

Straightening Wood

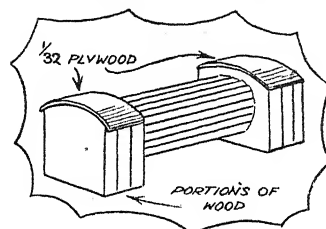
HERE is a tip which I have found useful for straightening out warped wood. If the wood is left on a flat surface in the sun (on an inner windowsill is a good place) with the arched or convex part upwards, the wood will straighten out.—(G. Moore, Birmingham).

Model Coal

WHEN you have been fretsawing there are a number of pieces of wood when you have finished. You can use these pieces by putting them in black paint with varnish mixed together. Get them out and put them in a little box to dry. This makes realistic coal for model railways.—(J. A. Slack, Loughborough).

"Comet" Loco. Tip

HERE is a hint in connection with the model of the locomotive "Comet" as supplied in "Hobbies Weekly" of May 7th. When the pieces of wood for



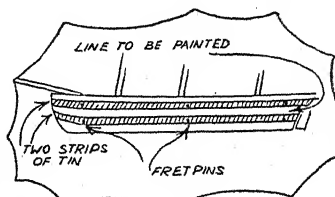
the firebox and front of the loco. have been cut and glued together, get two pieces of 1/32 in. wood and nail or glue over top as in picture.—(J. Ormiston, Leeds).

Doll's House Paper

WHEN building model houses, it might be desired to make the top half of the house pebble-dash effect. This can be done with a piece of "Hobbies" fairly coarse sandpaper glued, as shown in diagram. When dry, it should be painted cream or white.—(G. H. Thomas, Cheadle Hulme).

A Galleon Tip

MANY people find great difficulty in painting a straight line on the side of a galleon, but a method of drawing one is, as follows. Obtain an empty cocoa tin, and flatten it out, into a sheet. Then cut the tin up into narrow strips the



length of the galleon and bore a small hole at each end and one in the middle. Then place it on the galleon, either side of the desired line and tack it on. All you have to do then is to paint in the middle.—(E. J. Stokes, Sheldon).

FRETWORK STATIONERY

CABINET with inlaid lid

THIS week we provide the opportunity not only for making a practical box for stationery, or for a side table, but one which incorporates a striking lid of which the picture on the top is cut out in various coloured inlaid woods.

This type of work with the fretsaw is becoming increasingly popular, and it certainly produces a striking effect. By using four different varieties with contrast in grain and colour, it is possible quite easily to bring out a pleasing picture.

The advantage is, too, that it has a flat surface which can be polished and finished off equal to any professional. The box itself has a sloping top, is fitted with a handsome fluted moulding along the lower edges, and is raised entirely on shapely cross feet.

The whole thing makes a dignified casket of which any worker in wood may be proud. The article is 12ins. long, 6½ins. wide and 5½ins. high. A piece of work such as this is worth cutting out in good wood in order to get the best effect.

All parts can be cut with the fretsaw and there are no awkward joints to worry about.

The construction, too, is straightforward and a study of the various patterns on the sheet in conjunction with the details here will make it all quite plain. In several instances the parts required are quite plain outlines.

Few Fretted Portions

Indeed, the only actual fretted portions are the panel on the centre of the front and the two end column pieces also on the front. The patterns of these fretted pieces and, of course, the inlaid panel itself, should be pasted down to the wood, but in the other instances it should be marked out by pricking through the actual paper or measuring off carefully with ruler, square and pencil.

The construction of the box portion itself is straightforward, and the detail at Fig. 1 illustrates how the parts are put together. The two sides go between the back and the front, and the floor is glued up beneath.

The Box Frame

You will notice that the back extends beyond

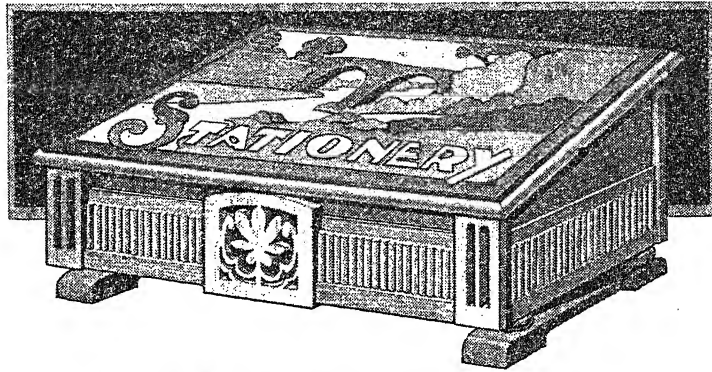
MATERIAL SUPPLIED

Fretwood.—For making this Stationery Box we supply a parcel of Mahogany with Padouk, Sycamore, Mahogany and Satin Wood for inlay—including four (No. 20) Toes and sufficient (No. 139) fancy moulding. Also a pair of ¼in. brass hinges, 6/- post free 6/6.

the sides ¼in. in order to take the thickness of the moulding to be added later. The top edge of the back and front, too, must be chamfered to be a continuation of the line of the sides, whilst two recesses are made in the back only to take the hinges on the underside of the lid.

All these parts can be nailed or screwed as well as glued, because the edges are being covered by other pieces of wood.

Next get out the end uprights on the front. They are glued in place level with the bottom of the box, but projecting ¼in. beyond the ends. The top edge of these must also be chamfered to



Made from Design Sheet No. 2230

the slope of the box top and level with the sides.

Fitting the Moulding

The projection of the back and of these front pillars provides a recess into which is glued the handsome fancy moulding supplied with the parcel or obtainable as shown in Hobbies Handbook. This is No. 139 which is nicely fluted and shaped ready to cut off into necessary lengths.

Measure up the distances between the front and back and see the moulding is just long enough to fit in snugly. Glue it in place at both ends flush with the bottom. The position of the moulding in relation to the corner posts is clearly seen in the detail at Fig. 2.

On the front we have two short lengths of the moulding, and between them the fretted panel forming the single decoration.

This panel, by the way, does not come flush with the bottom of the box, but is dropped slightly below in order to give character. Its exact position is indicated by the dotted lines on the pattern of the front.

Even Ends

The moulding is nicely embossed with fluted ridges. It will be necessary, therefore, before cutting it off, to see that it fits evenly at both ends.

That is, if the sawcut is down one of the ridges at one end, see that it is in a similar position for cutting off at the other, if not, move the moulding slightly to get it evenly spaced.

It is advisable, too, to scratch the back surface of the moulding with a pen-knife or chisel in order to get the glue to hold securely. Weight the moulding in place or tack it temporarily until the glue is set.

The Cross Feet

The feet go across the box underneath towards each end. They are composed of a long narrow strip to each end of which is glued a shaping piece or under foot, whilst above is fitted one of the little round (No. 20) toes. The parts are shown clearly in Fig. 3. The upper edge of the long

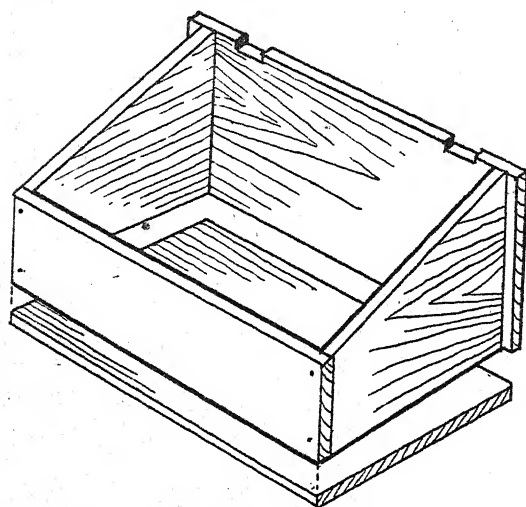


Fig. 1—Construction of the main box frame

strip should be rounded off as can be seen in Fig. 3, whilst the inner edge of the under foot should be similarly rounded inwards.

The circular toe is set back so the centre of it comes $\frac{3}{4}$ in. inwards from the ends. In order to get the toe to lie flat between the bottom of the box and the long foot, it will be necessary to flatten off one side of it to be like the reverse side.

Do this by rubbing it with a circular motion on a piece of glasspaper, but be sure to keep it flat so it can be glued securely between its other two pieces.

Now for the lid and its inlaid panel. The former is a plain piece of wood $\frac{1}{4}$ in. thick, $6\frac{1}{2}$ ins. wide and 12 ins. long. Its upper edges are rounded as shown in the section by a piece of glasspaper, and the centre of it contains the inlaid picture.

Note the position of the hinges which will later be added on the underside.

The Inlay Work

The actual inlaid panel measures 11 $\frac{3}{4}$ ins. by $6\frac{1}{2}$ ins. and it is only the pattern up to and including this line which need be pasted down. The outer line of the rectangle on the sheet is for the lid size.

The inlaid picture is cut from four pieces of fancy wood nailed together. Cutting is done through the four at one operation which ensures a perfect fit when the various parts are used. The wood suggested is sycamore, mahogany, satin wood and padouk, and the various parts which are selected are shown by the lettered key.

The Lettering

The letters of the wording "Stationery" should be cut out first, and be sure to make a drill hole as small and inconspicuous as possible. In the case of letters having an interior cutting—the A.O. and R.—these small pieces must be cut before the outline. Save the piece of wood according to the key letter, laying it aside whilst you proceed with the other cutting.

Then as you get out each piece from the main

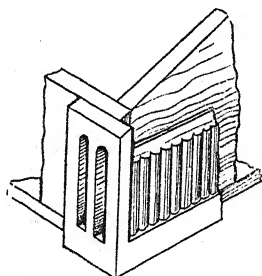


Fig. 2—The corner post and moulding

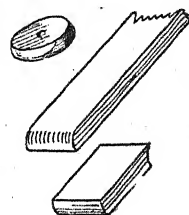


Fig. 3—Detail of foot portion

picture, build it up by piecing the whole thing together again to form the completed panel as required.

When the whole thing is finished, the outer framework of padouk is glued to the lid, then the various pieces of inlaid wood glued within it to the lid itself. Let the glue squeeze up slightly and weight the whole thing down under another board. Afterwards clean the surface with glasspaper until a smooth semi-glossy face is obtained.

To Prevent Warping

If there is any tendency in the lid to warp, put two strengthening struts across the underside. They can be $5\frac{1}{4}$ ins. long, 1 in. wide and $\frac{1}{4}$ in. thick. Glued across the grain about 1 $\frac{1}{2}$ ins. inwards from each end, they will reduce any tendency of warping. The lid is finally hinged on and should lie flat on the shaped sides.

Instructions and details of Blue Print for Flying Model Plane next week!

Speed, strength and stability in this

CANOE

MANY articles have appeared in some magazines on the construction of canvas canoes, of varying types and designs, but of these the majority have described craft built for strength and stability only, lacking the graceful lines which are necessary for speed and efficiency.

As in other sports in which youth takes part, the natural desire for canoeists is speed, and, therefore, the ability to cover greater distances in shorter time.

In this article are given details of the construction of a craft which, when built, enables the enthusiast to attain this end. Its design embodies certain features including tapering bows, shallow draught at the stern and cut-away washboards which help to give it a general streamlined appearance. It is also very easy to manipulate in all weather conditions, while its light weight is a great advantage.

It has a length of 14ft. 6ins. and a beam of 2ft. 1in., and any amateur can build this canoe for less than £2. The cost may be lowered by the use of cheap deal, but greater satisfaction can be obtained if ash and elm are used throughout.

Before commencing the construction make sure that you clearly understand every detail, and carefully read through the instructions given.

The Battens

For these we require two elm boards 1ft. wide and $\frac{3}{4}$ in. thick. In marking out the shapes as

extra pieces screwed to these battens and which later support the floor slats.

The weight of the canoe is reduced by cutting out the centre of each batten. Note that in battens B and F the slots for the deck beams are made $\frac{1}{2}$ in. deeper. The reason for this will be explained later. Also the centre batten has two upright pieces to which the washboards are screwed. These are strengthened by additional pieces as shown in the diagram.

Fitting the Battens

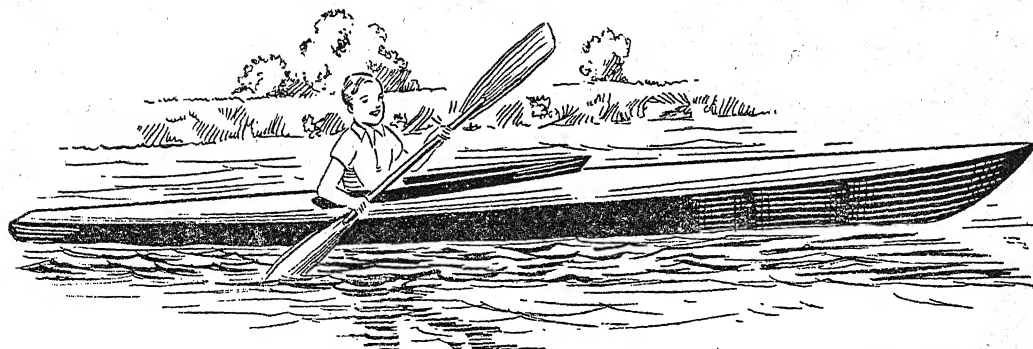
The keel is a piece of ash 12ft. long and 1 $\frac{1}{2}$ ins. by 1in. This fits in the bottom slot of each batten. See the diagram for position of battens. A single screw driven in from the inside into the keel keeps the batten quite rigid.

The stern and bow pieces are cut out of an elm board 3ft. 6ins. by 6ins. by $\frac{1}{2}$ in. The shapes are shown in the diagram, and note how they are fitted to the keel. Make certain that there is a close fit and round off so that the stern and bows together with the keel make one smooth curve.

The gunwales are 16ft. long and 1in. by $\frac{3}{4}$ in. Bevel off each end and tightly screw one end to the stern. Working along the boat, screw into each slot, finally affixing to the bows.

The Stringers

Ten of these are necessary, 16ft. long and $\frac{1}{2}$ in. by $\frac{3}{4}$ in. Starting next the gunwales, fit these in the same way as the latter. Those nearest the



illustrated in diagrams, care must be taken that the curves on either side of the keel are alike. To ensure this, the best method is to cut one half of each first and then, tracing the curve on paper, transfer to the other side.

All the cutting can be done with a fretsaw, fitted with a coarse blade. Slots in each batten are made for keel, gunwales, deck beams and stringers. The latter are indented $\frac{1}{4}$ in., leaving $\frac{1}{4}$ in. protruding, to hold the canvas off the battens. These slots are spaced out evenly on each former.

The shaded parts on battens C and E represent

keel will have to be twisted slightly at each end in order that the broader side comes next to the bows and stern boards. These stringers are fastened by $\frac{1}{4}$ in. brass screws throughout.

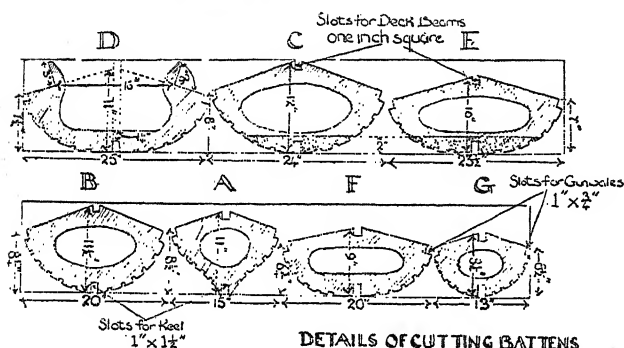
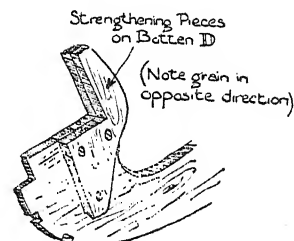
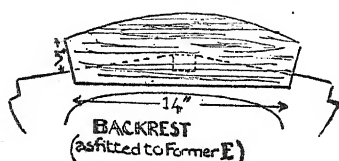
It is advisable to drill the screw holes at each end as the wood easily splits. Owing to the possibility of these ends chafing through the canvas, it is a good idea to cover the bows and stern with pieces of rubber. A section from a motor tube, cut down the inner side can be fitted round.

Two deck beams of these are cut from ash 1in. square, and measure 4ft. 8ins. and 6ft.

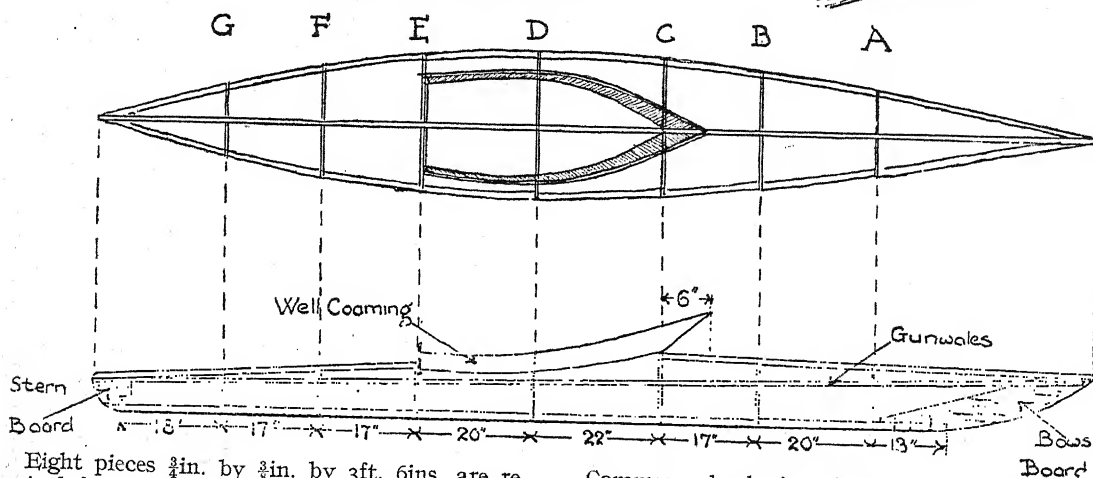
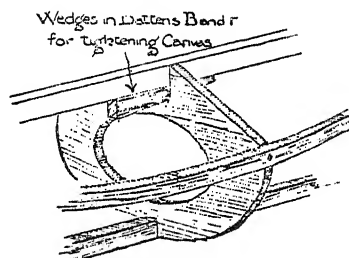
respectively. They are fitted into the slots in each batten and on top of the end boards. Instead of screwing to battens B and F, a small wedge is inserted, by which the deck canvas can later be tightened.

The Washboards

Cut from a waste piece of elm the shaped backrest, which is screwed to the top of batten E. This is shown clearly in the diagram, and can be padded if desired. Next take two pieces of ash 4ft. 6ins. by 4ins. by $\frac{1}{2}$ in. and taper down to 3ins. at one end. Measure 6ins. from the broader end and saw diagonally. Bevel these two edges so that a perfect joint is made. Screw firmly to the top of batten C, and bending round the projecting pieces on batten D, fasten to either side of the backrest.



DETAILS OF CUTTING BATTENS



Eight pieces $\frac{3}{4}$ in. by $\frac{3}{4}$ in. by 3ft. 6ins. are required for the floor. The ends of the slats are screwed to the pieces which are attached to battens C and E and in the centre to D.

The framework is now finished; to prevent chafing of the canvas, plane, file and glasspaper all sharp edges, joints and screw heads. Brass screws

are, of course, best for all joints, but these raise the cost considerably. Iron screws can be used if the heads are well sunk and covered with pitch or a thick lead paint.

If desired, the whole framework can be varnished at this stage, but this is not essential.

The Canvas

When covering the canoe, realise that this is an important part of the construction. Do not be tempted to rush it and just wrap the canvas round the hull.

Several types of material are suitable, e.g., duck, drill, calico. Hessian with plenty of paint, makes a strong covering. Egyptian sheeting is excellent but expensive. The best type of calico is both efficient and light. A piece 5 yards long is all that is necessary.

Commence by laying the canvas on the canoe, keel uppermost. Make sure that the centre of the material lies along the keel and that it projects over each end. To fasten use brass or copper tacks. First tack along the keel, starting in the centre and working towards each end, at the same time stretching canvas before each tack is put in.

Next, right the canoe and tack along the gunwales, again begin in the centre. Fasten on top of the gunwales, pulling the canvas as tightly as possible away from the keel.

The shallow bows make a fold here unnecessary. The process here is just the same as along the keel. At the stern tuck the surplus canvas in at one side of the keel and sternboard, stretch along the curve and put in a double row of tacks.

The Deck Covering

Do not yet trim off the canvas from the hull. In the centre take it under the coaming and tack along the underneath. At either end of the coaming join the canvas along the deck beams and trim off. Thus the one piece of material completely encircles the canoe.

Trim off along the inside of the washboards and tack on the top of batten E. If the canoe is required to carry camping equipment, etc., cut out the deck canvas on one side of the deck beam between battens A and B, and fit a flap over, fastening with two small clips. This can be repeated between battens G and F at the stern.

Give the whole two coats of boiled linseed oil, allowing the first coat to dry before applying the second. When it is completely dry give the hull two or three coats of paint.

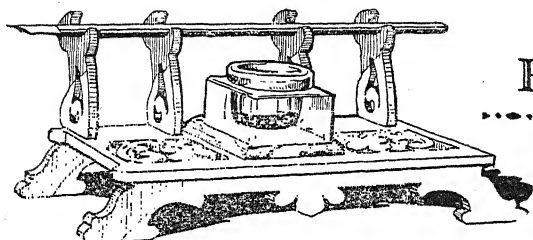
No special waterproofing paint is necessary. The best effect is obtained if the decks are painted a contrasting colour to the hull.

An outer keel rim, square greatly benefits the canoe as regards stability and helps to protect the underneath. Also attach a strip of either wood or iron along the stern and bows to protect the canvas against wear.

The Paddles

These are rather a problem when making a kayak, unless they are bought (costing about 15/-), but good substitutes can be made by taking two old sculls and splicing the blade ends together. The overall length should not be more than 8ft.

When completed this craft will give years of excellent service, and will amply repay the builder for time and money spent on its construction.



A SIMPLE FRETTED PEN RACK

Be sure to get a good joint for these two parts, and clean up carefully before testing out. Glass-paper the pattern remains off the tenons—the projecting parts—then see they fit in well to the base without any projection above the surface of the wood.

WHEN you are looking around for some little thing to cut in fretwood to pass away half an hour or so, or when you are wanting to make some little article for sale, do not overlook the excellent little Pen Rack illustrated here.

The full size patterns are given on page 383 and all you require is some small pieces of wood 3/16in. thick. Paste the patterns down with the grain running in the long direction, and not across or you will weaken the various parts. Then cut out with a fine grade fretsaw and clean up with a medium grade of glasspaper.

The work is quite straightforward, but you must be careful to make a neat and clean job of it. Use a good quality fretwood so you can stain it down afterwards.

Suitable Inkholder

The Pen Rack completed is intended to hold the little square inkstand supplied by Hobbies Ltd. This is No. 5661 and is intended to fit into the little hollow framework of strips lettered C.C. The inkwell is a strong glass affair with suitable lid, and is supplied for 10d. with 3d. postage.

In the cutting and construction there are one or two little points to note, particularly with regard to the joints. The base has a solid centre, but is fretted at the two ends. Then there are the two openings A and B intended to take the fretted rails along the edges.

Feet Rails

These two long rails form the feet to lift the base. The little rim pieces C for the inkwell are on the upper surface of the base, and glued round to prevent the inkwell from wobbling.

The exact size is obtained by putting the inkwell in place, then marking the position of the strip pieces. These cover the tenon A at the back, but not the other. You can, however, hide this by running a very narrow strip of thin wood along the whole length.

Cut a piece from 1/16in. material 3/16in. wide and 5ins. long and glue it down exactly over the tenon to continue along the front edge.

Pen Holder Parts

The four pieces forming the rack for the pen are cut with a little halving slot which fits over the back edge. The two end ones are put 3/4in. inwards from the ends themselves, then the two inner ones just outside the rim round the inkwell. Be sure to get a good fit in the little halving slot at B, and glue them solidly upright.

If you have not even then got a good joint, you can easily glue the little upright strip between the edge. A piece of 1/4in. wood, 3/4in. long and 1/2in. wide can stand on the base, and fit between these rack pieces to give further strength.

CHILD'S SEAT AND TOY BOX

HERE is an interesting little piece of child's furniture to make up. It takes the form of a seat with ornamented top or sides cut to the shape of a swan and having two back rails for safety and strength. This top is hinged to a specially shaped box so that when thrown back, as depicted in our sketch, a spacious cupboard is revealed which will hold all the toys and gadgets so dear to the youngsters.

The size of the completed seat is height 20ins., width 12ins. and depth from back to front 12ins. It is painted neatly in bright colours.

The Framework

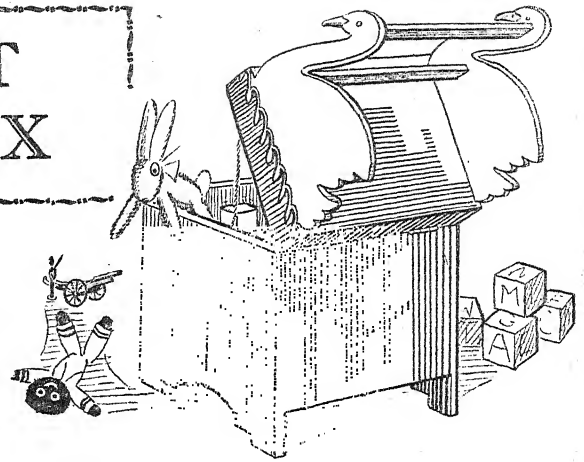
The sides are $\frac{1}{2}$ in. thick, and it will be necessary to joint up say two pieces of 6in. stuff or three pieces of 4in. stuff for each side to get the required width of 12ins. Each end of one of the boards must be divided into inch squares (Fig. 1) and the outline of the swan and the shaped bottom carefully drawn in. Go over the completed outline with a soft black pencil so a decided line is made for cutting with the fretsaw.

Use a coarse fretsaw for the cutting and clean round the edges afterwards with coarse and fine glasspaper. Lay this cut-out side on the other prepared board, and mark round the shaped swan making a good line for the cutting again of this piece.

Top and Bottom

The top and the bottom of the box B, in Figs. 2 and 3 will each be made up from jointed boards similarly to the sides, and will measure when finished 12ins. by 11ins. by $\frac{1}{2}$ in. thick.

The bottom, or floor of the box will be fixed at



a distance of 2ins. up, countersunk screws being run in and some glued blocks being added beneath to give double strength.

The top of the box will be fixed to the sides similarly, the space between the floor and this top being 9ins.

Next prepare the front and the back, C, in diagrams Figs. 2 and 3. Each of these measures 11ins. by 9ins. by $\frac{1}{2}$ in. thick and will be made up by gluing up two pieces and planing down to the required width to fit in between the floor and the top.

Rails

The two back rails D of the seat each measure 11ins. long and are cut from 1in. by $\frac{1}{2}$ in. stuff.

They are fitted between the sides and are securely screwed or pinned in with wood dowels dipped into glue and driven in.

A better method of fixing the rails would be to let them be 1in. longer and then to cut small tenons on each end to let into the sides of the seat.

CUTTING LIST

Sides, 4 pieces 20ins. by 6ins. by $\frac{1}{2}$ in.
Top and bottom, 4 pieces 11ins. by 6ins. by $\frac{1}{2}$ in.
Front and back, 4 pieces, 11ins. by 5ins. by $\frac{1}{2}$ in.
Rails D, 1 piece 11ins. by 2 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in.

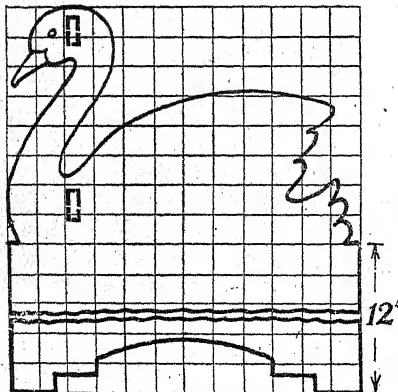


Fig. 1—Outline in squares of sides

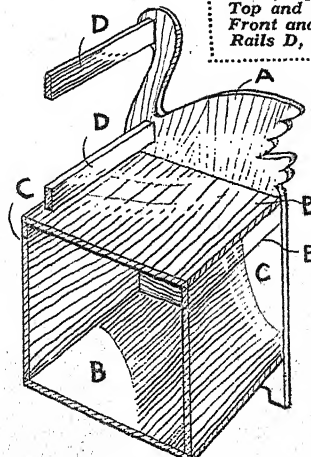


Fig. 2—Construction of box

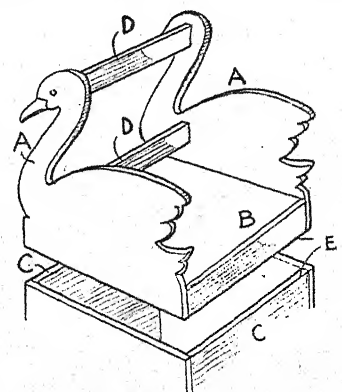


Fig. 3—Details of top shape

They could then be glued in and wedged if desired making a thoroughly strong job.

Almost the final operation is to cut through the sides, the back and the front with a tenon saw to form the box below the seat.

To do this properly, mark a line all round at $\frac{1}{2}$ ins. down from the top edge of the seat and saw carefully to it, as Fig. 3. By doing it this way a perfect fit between seat and box is assured, and it now only remains to fix the hinges along the front edge.

A pair of rin. brass hinges would be preferable, and the flaps should be recessed into each part so

the two parts—the seat and the box—fit closely and evenly all round.

To the interior angles of the box should be glued strips of $\frac{1}{4}$ in. angle fillet to strengthen the whole box. Short pieces of this fillet should also be added to the inside angles of the seat.

The box would look well enamelled blue with white for the swan and a darker blue perhaps for the seat portion itself.

The inside of the box should be painted or stained dark brown.

A length of chain with ends fixed to chair and box will hold the former at the desired angle while the inside of the box is in use.

SOME INVISIBLE INKS

A SOLDIER imprisoned by the enemy received a letter from his brother which contained only a few simple sentences of news, to which even the strictest censor could not object.

The soldier, however, remembered that when he and his brother were boys they used to send letters to each other written in invisible ink. Therefore he rubbed his finger in the dust on the floor of his cell and then rubbed it between the lines of visible writing. A whole new letter appeared containing information which later helped him to escape.

The secret is simple. His brother had written the second letter with milk, and when this dried no trace of the writing remained, until it was rubbed with a dirty finger.

Treated with Iodine

Another kind of invisible ink is made as follows. Take as much starch powder as will go on a farthing and mix it with a very small quantity of cold water. When you have done this, add $\frac{1}{2}$ gill of boiling water, stirring as you do so.

When cold, this solution can be used as an ink which is invisible until the paper on which it is used is treated with dilute tincture of iodine.

An ink which it is even easier to make is made by boiling up a few oak apples (galls) with a little water. This infusion when treated with a solution of ferrous sulphate, which you can buy at the chemist, becomes black.

Fades after Reading

It may be necessary sometimes to write to somebody with an ink which fades after they have read the message. An ink for this purpose is made by adding a gill of water to as much arrowroot as will go on a silver threepenny piece. Boil the mixture and when cold add 24 drops of tincture of iodine. This ink is visible to begin with, but fades in a few days.

An ink which is invisible when used, but which appears when the paper on which it is, is heated, is made by dissolving 1 drachm of cobalt chloride,

which you can buy from a chemist, in $\frac{1}{4}$ gill of water.

If you add more cobalt chloride or have less water, you will make the solution stronger, and when it is used, it will leave pink marks on the paper which turn blue on heating. With it you can draw 'chameleon' pictures, so called because of the animal which is able to change its colour. It will make this ink better for drawing with, if a little gum arabic is added to it.

Burning Writing

If you make a very strong solution of saltpetre, and then write with it on thin paper, using a match stick as a pen, it will be invisible, but if one end of the writing is touched with a smouldering piece of string, the words will be slowly charred out.

The paper should be laid on a tray when this is done, as otherwise it may fall into several pieces and make the writing impossible to read.

For this method to be a real success, air must be able to get under the paper, as well as above, so fold down two opposite sides of the paper to make a little stand, as in the diagram.



The letters burn into the paper when touched with smouldering match or string

Also the words and letters must all be joined together without a break, and if you are sending the letter to a friend, it is as well to make small marks in pencil to show him where to apply the smouldering string at the beginning of each line.

A STRIKING GARDEN ORNAMENT IN WOOD

GARDENS are looking their best just now, but this very attractive little statuette ornament will improve them even more. So simple and inexpensively made, too, that you should have no hesitation about constructing one for yourself—or, perhaps, a neighbour.

Cheap deal boards are used throughout in building the pedestal. This is made weather-proof and damp-proof with coatings of Creosote—a special preservative—and grey or cement-coloured enamel paint. The interior of the column of the pedestal is filled with ballast (such as dry sand) to give the article weight. The statuette on top is a bronze ornament costing 6d. at the stores; it is semi-nude and very artistic.

Making the Pedestal

Work should be commenced by building the column. It is composed of two pieces of $\frac{1}{2}$ in. stuff 27 ins. long by $4\frac{3}{8}$ ins. wide and two the same length and thickness but less 1 in. in the width.

When planed and cut squarely to size, glue and nail the wide pieces on top of the narrow lengths and affix a $3\frac{3}{8}$ in. square piece in flush at one end, this being the bottom (see sectional elevation at Fig. 1).

Proceed by sinking the nail heads and planing the joints level. The base comes next, the foundation being a 10 $\frac{3}{8}$ in. square piece of $\frac{3}{4}$ in. deal. Glue and nail (or screw) 2 in. wide battens to the underside, keeping them flush with the edges of the board. The ends can be mitred or butt-joined at the corners.

Plane the face edges of the foundation level and then surround with 1 $\frac{1}{2}$ in. wide face laths, same being mitred (refer to Fig. 3) as they will be seen.

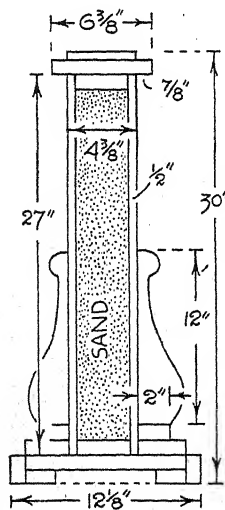


Fig. 1—Sectional elevation with dimensions

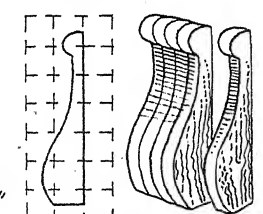


Fig. 2—Wing shape in 2 in. squares and showing construction

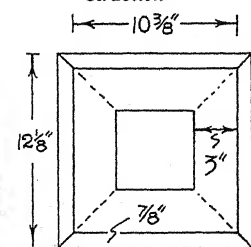
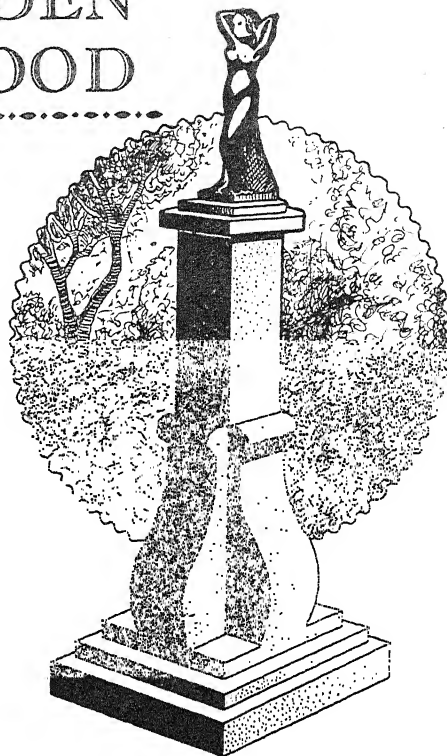


Fig. 3—Size of base



Now mark $4\frac{3}{8}$ in. square guide lines on the top centre of the board and bore a screw hole through centrally.

Find the centre of the column bottom block and mark with the bradawl. The column is then glued and screwed centrally to the base foundation with ease. Nails or more screws should be driven into the column ends to hold everything square and secure.

Base Formation Pieces

The column is further strengthened by the formation pieces of the base. These are lengths of $\frac{3}{4}$ in. stuff 3 ins. and 2 ins. wide, the former being mitred around first and secured with glue and nails. Use flat oval nails in all the construction, by the way, and sink the heads slightly as you go along, but only those which are seen.

When the top base tier is attached, make the column wings. There are four of these, each being built up to $4\frac{3}{8}$ ins. thick with five wing shapes as shown at Fig. 2. That means that you have to cut twenty wing shapes from $\frac{3}{4}$ in. stuff, so it is worth while making a template for marking them out.

The Ornamental Wings

The shape is outlined in 2 in. squares. Cut out and clean up one wing with rasp and spokeshave and use it as a template. When attaching the five wings together, keep testing with a set-square from the straight edges. Use 1 $\frac{1}{2}$ in. nails and waterproof glue, although ordinary glue will serve.

Clean up the built wing blocks with rasp and

spokeshave and glasspaper. The straight backs and ends of each are planed square and level, after which the blocks can be glued and nailed in place.

At this juncture, the column could be filled with sand to within about 1 in. from the top to allow for the blocking piece which is affixed inside to be flush. Before carrying out this procedure, however, the interior of the column could be coated with creosote or old paint to ward off dampness. An old rag tied to the end of a stick makes a serviceable brush in reaching down inside.

The underside of the pedestal top is painted prior to attaching centrally on the column ends. The nail heads are hidden by the upper top piece which is attached. All nail heads and any crevices in the wood should be filled in with plastic wood and the whole work thoroughly glasspapered.

One coat of creosote all over plus one coat of old paint and two of grey enamel should stand up to all weather conditions. A coat of enamel every year would not come amiss, of course, and you will want to do it, anyhow.

To attach the statuette ornament, bore a 3/16 in. central hole about 1 1/2 ins. deep in the pedestal top and glue into same an 8 in. piece of dowelling into which you have driven panel pins. These project to grip on the alabaster or plaster-of-paris filling which is packed into the interior of the ornament via the base.

It is a simple matter to invert the filled ornament and push it down over the dowel to accommodate itself on the pedestal top. The statuette could, if you like, be enamelled white or grey.

MATERIALS REQUIRED

| | | | |
|--------------------|----|----------------------|---------|
| 2 column pieces | .. | 27ins. by 4ins. | by 1in. |
| 2 column pieces | .. | 27ins. by 3ins. | by 1in. |
| 2 column blocks | .. | 3ins. by 3ins. | by 1in. |
| 1 column top | .. | 6ins. by 6ins. | by 1in. |
| 1 upper top | .. | 4ins. by 4ins. | by 1in. |
| 1 base foundation | .. | 10ins. by 10ins. | by 1in. |
| 4 under laths | .. | 10ins. by 2ins. | by 1in. |
| 4 face strips | .. | 12ins. by 12ins. | by 1in. |
| 4 formation strips | .. | 10ins. by 3ins. | by 1in. |
| 4 upper strips | .. | 9ins. by 2ins. | by 1in. |
| 10 wing pieces | .. | 12ins. by 6ins. | by 1in. |
| 1 piece dowel | .. | 8ins. by 1in. diam. | |
| 1 bronze ornament | .. | (Obtainable locally) | |

"Walk off" with this

HIKING CROSSWORD SQUARE!



THERE'S nothing like a good hike to take the "cobwebs away" from one. But, if your brain is a bit "cobwebby," too, there's nothing like a good crossword puzzle, particularly when it's on hiking.

One must look out for professional hikers when travelling alone, and the title of this "gentry" is the subject of one of the clues. What are professional hikers? If you can't tell just now, you will be trying out this simple crossword and getting all the abbreviations and so forth.

There are, of course, no alternatives to consider—or prizes. Next week the correct solution will appear, so let's hope you will be one of those who have "walked off" with all honours. Meanwhile, you have a pleasant half hour's task in front of you—or less.

CLUES ACROSS

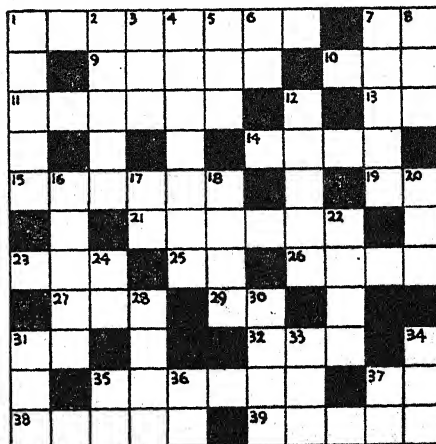
1. This is strapped on a hiker's back.
7. Sam Brown (abbr.)
9. Lawful.
10. A corn on one makes hiking an ordeal.
11. Joined together.
13. Civil Engineer (abbr.)
14. You can always get this fresh from farmers.
15. Shamrock is an Irish one.
19. Short for "street."
21. It is hoped the weather will be.
23. This comes too soon when hiking.
25. "Y" and "L".
26. Clothes are sometimes this through thorns.
27. Hungry hikers often say they could do this with a horse.
29. An exclamation expressive of inquiry.
31. A mild ejaculation of surprise.
32. Non-camp hikers can always put up at one for the night.
35. You must be able to deal with these professional hikers.
37. "Lie" beheaded.
38. Some prefer boots for hiking than these.

39. Never use petrol in a paraffin one.

CLUES DOWN

1. Some like to plan this beforehand.
2. Steep hills often present a stiff one.
3. This should show excellent choice.
4. That of the countryside is always delightful.
5. Hikers invariably do this to one and another when necessary.
6. Cricket Team (abbr.)
7. Holes in the heels of these usually cause blisters.
8. A sting from one should be attended to at once.
12. All hikers try to travel this.
16. One needs a good supply of this.
17. London-Brighton (abbr.)
18. There's 1,760 yards in every one.
20. The sun is sure to do this to your skin.
22. It is a pleasure coming across a small one.
24. A childish word for "father."
28. Corpulent hikers easily do this.

30. A belt must not be too tight around these.
31. Short for "mistress."
33. National Science Tripos (abbr.)
34. To observe.
35. Telegraph Office (abbr.)
36. In the middle of "lass."
37. Irish Vagabond (abbr.)



Solution Next Week. Another Crossword week after

Beginner or expert can learn from these FRETWORK NOTES

THE various notes on this subject which have appeared in this series from time to time, have, we find, proved helpful to readers in solving some of their difficulties, and provide them with hints on certain occasions for the easier use of tools and materials.

Probably there are other little troubles which arise, and we are always glad to provide the best solution in these notes when possible. One of the things that the beginner finds is the number of odd pieces of wood which he has left over.

Some people are naturally more extravagant than others, and they are the ones who find considerably more waste than there should be. Obviously if you have a large board and a small pattern it is not economical to paste the latter right down in the middle of the wood and spoil the whole piece.

Saving in Wood

Much better, surely, to paste the pattern near one corner and so allow the rest of the board to be utilised for some other purpose.

Even so, it is not possible to utilise every portion of board and odd little pieces are bound to be left over. Some workers throw these away, whilst others keep them under the bench in a box for future use.

These various odd pieces undoubtedly come in for something or other, and very often can be utilised in another design later on. It is surprising, however, how much of this more or less waste material does accumulate and how little of it is really useful for other patterns.

It always seems that it is either the wrong thickness or not quite wide enough, or long enough or something of that sort.

Models and Toy Blocks

Even so, it seems a pity to have to throw away all these pieces of perfectly good wood and readers should think out some plans for utilising them to the best advantage. If you are interested in model railways, these tiny pieces can be used there.

Strips are cut for railings or sleepers or signal arms, or even such small articles as model lamps, luggage trucks, station building ornaments, buffer stops, and so on.

In a general way, too, some excellent geometrical designs can be made up from these bits and pieces. For these you must cut a number of the same size and thickness in various shapes.

Triangles, rectangles, squares, etc. can all be used, and by fitting them together in their different colours to varying shapes some useful pieces of work can be made up as shown by the drawings herewith. These little squares, triangles, etc. can be used as little toys and are a delight to any kiddy.

Cut a large number of the blocks out, then put them in a little wooden or cardboard box with a suitable label pasted to the top. Thick wood is particularly applicable to these blocks, but it should be the same thickness as far as possible right through. The thinner wood can be cut into the same geometrical design then built into a pleasing mosaic for small table mats.

Mats from Waste Pieces

Small ones about gins. across can be used for plates, whilst similar ones are for hot water jugs, gravy boats, etc. Larger ones can be made if you have sufficient of the shaped pieces to make up quite large mats for dishes.

Get the wood the same shade but make the design with the surrounding portions in another wood to form the background. Or you can mix them all up and have a jumble of different materials providing different colours and grains.

Back with Cloth

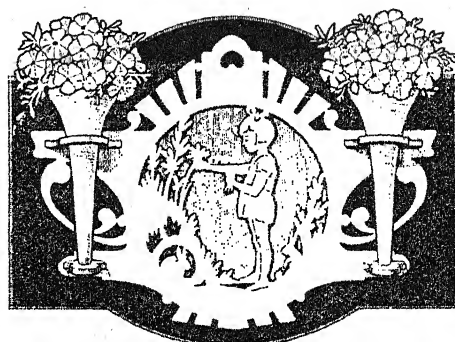
These little pieces are easily made into mats by gluing them on to American cloth or some of the linen cloth provided by Hobbies. This is strong material to which the glue is applied and the little pieces of wood have been fixed on.

If you are using up a number of these odd pieces it is probably worth while making a little cutting board so you can make them the right shape with a small tenon saw. You can then be sure of a dead straight edge which will butt up to the next one and be glued satisfactorily.

The duplication of designs is another point which seems to worry some readers. In most cases the complete patterns are provided for cutting out the whole of the fretwork design.

Full size patterns next week

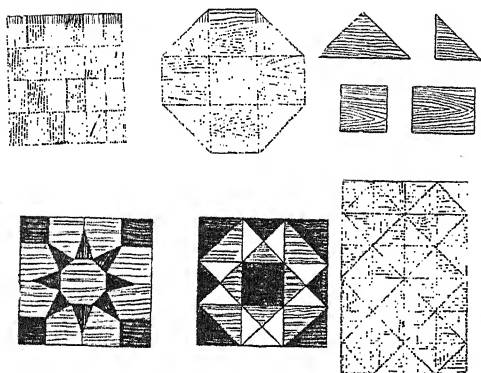
HANGING VASES



In some cases, however, it is impossible to put the whole of the part on the sheet owing to lack of space or something of that sort. Then you have to trace or redraw the design and for this reason a complete half or section is provided which can be easily duplicated.

Duplicating Parts

A centre line or definite straight mark is provided and the pattern is simply turned over and redrawn on the opposite side of this. One essential point is that the design must be pinned to a board.



Examples of small pieces used as mats

A pastry board or the back of a wooden tray will do quite well, but see the drawing pins hold the tracing paper and the actual pattern in place when you are drawing. If not, you will find the paper is apt to move and although you may not notice it the shape of the design will have been spoiled.

Get it flat down and go over the design carefully with a sharp pencil. The way in which it should be done is illustrated here, and in this instance we have a piece of carbon paper between the actual design pattern and the wood. The pattern is thus drawn direct on to the material and saves pasting the paper down.

The same process is followed if the whole of the pattern is not shown on the sheet. The part of the design printed is traced off on to the material, and when the carbon and paper is taken away the lines should be gone over again carefully with a pencil to make sure they are sufficiently plain to make for easy cutting.

Use Square and Rule

Then the actual paper design is cut close to the pattern lines and pasted down to the similar outline already drawn on the wood. In doing this, pay particular attention if there are any mortise and tenon joints or any angles or long straight lines.

Have a ruler and a square handy so you can see in pasting down that lines intended to run through the whole design are quite straight.

Get the thing properly balanced before you finally press the pasted pattern down to the wood. In the case of large designs this may take a little care and attention, but whatever you do have it done properly.

Or, instead of a part which will fit into the model or the article concerned, you will have a piece of wood which will not balance or will not fit as it should.

How to Fit a Blade

The question has often arisen as to the fitting of the fretsaw into the frame—whether the blade should be fitted into the bottom clamp first or into the top one. We have heard many arguments on the subject by people who differ as to their own methods. But that in itself is an answer to the argument.

If you find it simpler to put the blade in the bottom clamp first then tighten it at the top, well, that is the easiest way out.

If on the other hand, another worker puts his first in the top clamp then finishes off with the bottom—well, that is his way.

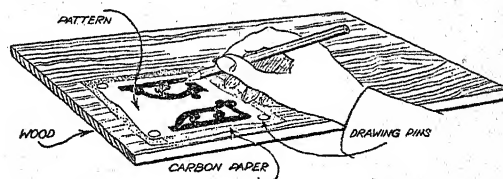
It is the same with the fretmachines. Some people lay the wood on the table, fix the blade first in the top clamp then thread it through the wood and the table before fitting it into the arm below.

Generally speaking, however, the blade is stood into the bottom clamp first and stands upright through the hole in the table so the wood can be threaded on to it.

The Better Way

The principal point, of course, is that you get the wood through the hole without bending or breaking of a piece of the blade. There is certainly the advantage in threading it through from the top that you can see the hole into which it is going.

If you are working from underneath, however, it is not always feasible to get low enough to see the hole where the sawblade is going in. Those who thread the work on in this way, however, can usually gauge the position of the hole quite easily, and in any case the tip of the finger run over the surface will soon locate the position of the drill hole.



Duplicating a pattern on to the wood

An essential point is to see that the sawblade is very tight in the clamps and that the teeth face downwards and to the front.

There is probably more damage done by having the tension on the sawblade too loose than from any other cause. The trouble is then that you will be cutting along quite merrily when all at once the blade springs out of one of the clamps and tears the wood or breaks the blade or makes you jump—possibly all three.

Do get the blade well into the clamp then tighten it up sufficiently to hold it against normal pressure.

HOW TO ADJUST YOUR CYCLE

ALL fellows who own bicycles should know how to keep them carefully adjusted. Here, therefore, is a short description of how "tuning up" is done.

Cutting out all such obvious things as lamp brackets, carrier clips, etc., which are often merely a case of tightening up a screw, there are three main adjustable parts in every cycle—(1) the cones, (2) the head, (3) the bottom bracket. All should be occasionally tightened up, otherwise the machine becomes rattly and excessive wear is induced.

The cones are found at the centres of the front and back wheels, and to make fine adjustment you first of all require a "cone spanner," which can be obtained at any machine shop for about fourpence.

Test for Wheel Slack

Test the wheel for slackness by pulling it sideways with the thumb on the fork near the top, and one finger crooked round a spoke where it enters the rim. If the wheel moves sideways relatively to the fork, then the cones are slack.

To tighten, slacken the main axle-nut and slightly ease out the fork. Then insert the cone spanner (shown in the sketch) until its two edges meet on the square faces of the cone, and turn slightly in a clockwise direction. Only a very slight turning is usually necessary as the wheel tightens up rapidly. Continually test the wheel, and when you are satisfied that the adjustment has been obtained, retighten the main nut.

A Loose Head

To test the "head" for looseness, stand by the side of the machine and holding the handle bars firmly give them a very slight upward lift. If there is movement of the bars relative to, that is, apart from the frame, the head requires tightening. These movements if present, can be distinctly felt.

To effect the necessary tightening, slacken the locking nut (shown in the sketch), and give a slight turn to the collar below, so that it fits down a little more tightly on the ball-bearings. When the slackness has been eliminated re-tighten the locking nut.

The bottom bracket is just as simple a job, but is perhaps a little harder to put into words. Just at the point where the pedal axle enters the bracket you will find a disc of metal with two holes near the rim.

This is called a "cup," and sits down onto a ring of ball-bearings in the same way as the cone does at the wheel axle.

Tightening is effected by first of all slackening

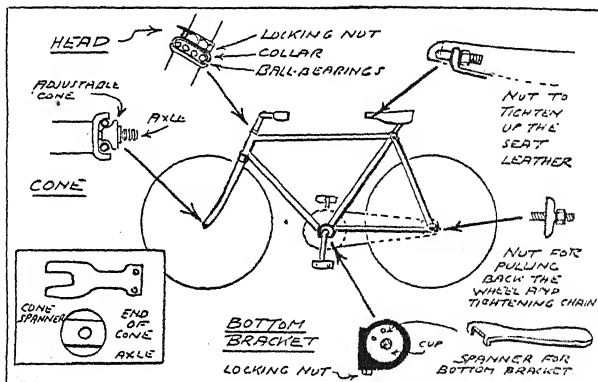
the locking nut which is found at the lower side of the bracket (see sketch), this releases the cup, which can now be given a slight turn, either with the special spanner, as shown on the right-hand side, or by tapping with a hammer and piece of steel.

Pedal Adjustment

The pedals are tested for slackness by attempting to lift them sideways while holding the machine firmly; slackness of course, being shown if they move apart from the frame. When sufficient adjustment has been made, again tighten the nut on the under side.

Two minor adjustment points that should be thoroughly understood are those which stretch the saddle leather, if slack, and keep the chain at the correct tension.

The saddle nut is found on the under side near the front in most makes of seats. Therefore stretching of the leather is effected by simply



giving a nut a few turns with a suitable spanner.

The nuts for tightening the chain are found at the point shown. The axle nuts are slightly slackened and when the smaller nuts on the adjusters are turned the rear wheel is drawn a little backwards in two horizontal slots, which, of course has the effect of tightening the chain to any given degree.

With these two nuts, a very fine adjustment in the chain tension can be maintained.

The Tool Kit

A good kit consists of a cone spanner and "shift" spanner with an end that can be used as a tyre lever if necessary. Also a puncture outfit should be really efficient, and it is good to carry a number of circular "sticky patches," and also a large rectangle in case of a big rent.

A little canvas to be used should an outer cover become damaged, is also an important addition.

GLAZING PHOTO PRINTS

WHEN developing and printing of films is done by a chemist, the prints usually have a very highly glazed surface, one which appeals to many amateur photographers. In fact this finish has been very keenly prized by those who are responsible for doing amateurs work, for they know that the public like it, and to a certain extent it does seem to bring out the small detail of the picture.

The process is a very simple one, and now that so many are doing your own work, there is no reason why you should not glaze your own prints. The printing must be on glossy paper if you desire a very brilliant glaze, and the apparatus required for the work is a piece of plate glass or a sheet of prepared metal such as chromium. Or, if you can get them through the dealer in your town, one or two Ferrotypes Plates. These are tin sheets coated with a special kind of enamel which does not easily chip.

Use of Plate Glass

Undoubtedly the plate glass is the most useful, for it can be kept perfectly clean quite easily. This is most important and necessary, for if any dirt is allowed to settle and remain on the glass during the time the glazing is being done, it will be sure to mark on the print.

The method which follows is applicable to both glass or metal sheet. When the prints to be treated have been thoroughly washed, they are placed in a dish of Glazing Solution. A 4 oz. bottle of the concentrated solution costs 1/-, and is made by diluting one part of the solution with ten parts of water.

Soaking in Solution

It is only necessary to soak them in this for a short time, say, five minutes, and while they are soaking, make sure that the glass is clean. As a safeguard, spread a little of the diluted solution over the surface of it, then lay the prints face

downwards on to the glass, and with a rubber squeegee press all the surplus solution from the print by rolling the squeegee over it. You must use a fair pressure for there must be no airbells left between the print and the glass.

Prints Peel Off

Mop the solution from the glass and stand it on its edge in a dry spot where the damp prints can dry evenly and fairly quickly. Probably if you do this part of the work before going to bed, you will find the prints lying on the floor in the morning, having dried and peeled off without any help. Really they should do this if the work is done properly, and the glaze should be just as good as if it had been done for you.

There is another way of doing it, but a little more care is required. Instead of using a glazing solution you first polish the glass with french chalk powder and then remove all trace of the powder. Do not allow any to remain. Having done this, remove the prints from the washing water and place them face downwards on the glass and squeegee in the same way.

Allow to Dry

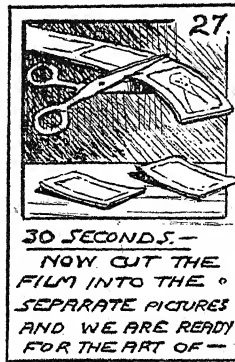
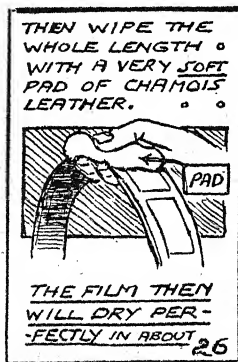
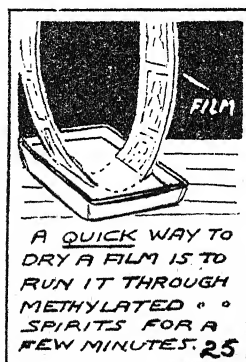
Some of the present day gaslight emulsions are so hard that they hardly need the soaking in the glazing solution, but if this part of the process is omitted then it is best to allow the prints to dry and then give them a short time only in water before transferring them to the glass. With bromide papers, however, it is seldom that the emulsion is so hard that you can dispense with glazing solution.

Helpful Hints

There are one or two minor difficulties that can occur when glazing, and it is advisable to know what these are, and to be prepared for them so that they may be prevented if possible.

Our Photographic Feature Strip

(Continued)



" If the prints stick to their support and have not lifted themselves after they are dry, then try lifting one of the corners with a penknife. It should be quite easy and you will possibly find that the whole print will leave the glass without much effort on your part. If you have got to pull it, you must try to do so without stopping the process until it is completely off. Otherwise, whenever you stop, you will find that the glazing has a line across it each time the pulling closed, just as though the glazing is cracked.

Sticking Troubles

This sticking effect is more often than not the result of the solution being too warm, or you may be working in an atmosphere that is too high in temperature. This has caused a softening of the gelatine.

Do not pull the print till you tear it, but put the glass with the print on it into a bath of cold water and try to soak it off for re-doing. It will take a good deal of soaking, but it is better to try to save the print rather than waste it.

Another Fault

Another fault which may occur is due to air space being left when squeegeeing the print to the glass. You will find a patch without any glaze on it.

If it is too pronounced and spoils the appearance of the print, soak it again and re-squeegee it. If you have soaked it long enough you will find that the trouble has vanished when you take it from the support the second time.

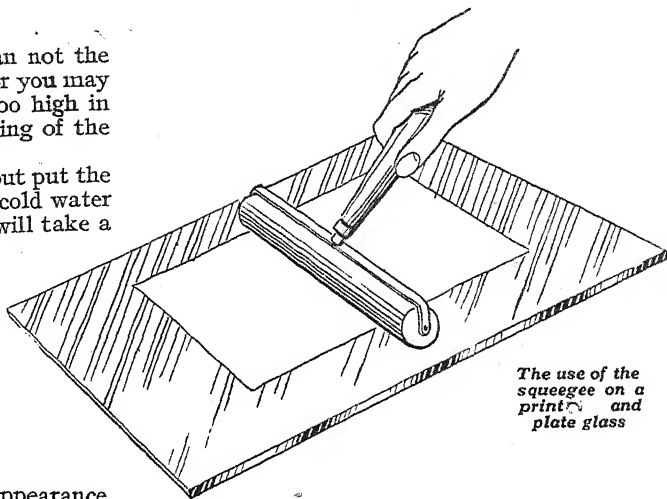
Dust or dirt on the glass will cause tiny pits in

the surface of the print, and if you have left any chalk on the glass, these little pits will be found to contain a particle of the chalk in each.

Hints on Mounting

When mounting a glaze print you may find the glaze will disappear. That is because you are using a paste with too much water in it and the moisture has penetrated through to the glaze.

You can purchase a special Mountant—special



The use of the squeegee on a print and plate glass

because it is made expressly for use with photographs and has the minimum of water in it. It is of great adhesive power and a small touch of it on the corner of the prints will keep them in an album permanently.



Closing Date :
July 30th

In the Open Section a 1st Prize of a Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed: Amateur Photographic Competition,

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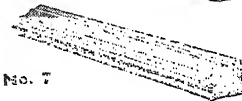
Hobbies Weekly, Dereham, Norfolk, and must arrive not later than July 30th. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.

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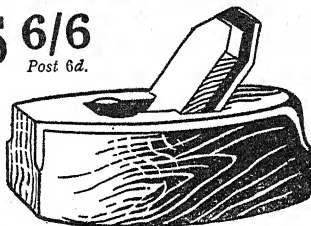
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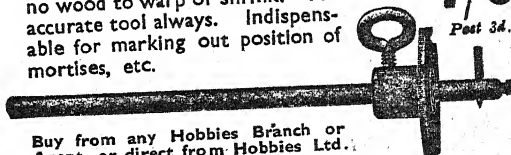
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Plywood you will be proud to use. It has a veneer of nicely grained Oak. The 20 in. × 14 in. panel is a useful size for tray making.

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$\frac{3}{16}$ in. MAHOGANY VENESTA

| | | |
|-----------------------------------|-----|-----------|
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No need to envy the professional French polish—you can get it with Hobbies Lightning Polish—so easy—so rapid. A child can use it. In two sizes 10d. and 1/8. Postage 5d. Also in 1/2 pint bottles, 2/3 and 1 pint, 4/9 post 6d.



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A good stain forms the basis of a successful polish job. Don't use a stain which raises the grain or dries patchy. Hobbies Spirit stain soaks right down into the heart of the wood and dries quickly and evenly. Made in five colours: Mahogany, Light Oak, Fumed Oak, Jacobean Oak and Walnut in 6d. and 1/3 bottles. Postage 4d. and 6d. respectively.

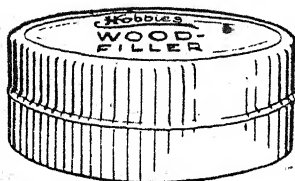
COLOUR POLISH

Just like Lightning Polish, but stains the wood the same time as it polishes. This is a big favourite with handymen, because it saves time. Suitable only, of course, on bare wood. Why not try a bottle and see for yourself the amazing results it gives? 1/9 per bottle, post 4d., also 1/2-pint bottles 3/6, and 1 pint 5/3, post 6d.



WOODFILLER

You need Woodfiller for filling the grain of wood before polishing. This is a special preparation which does its job well. In two sizes, 6d. and 1/-, post 4d.

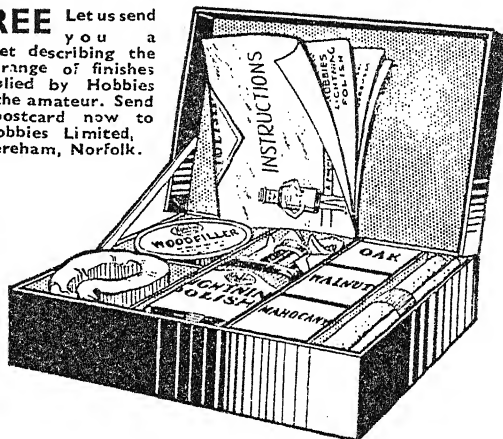


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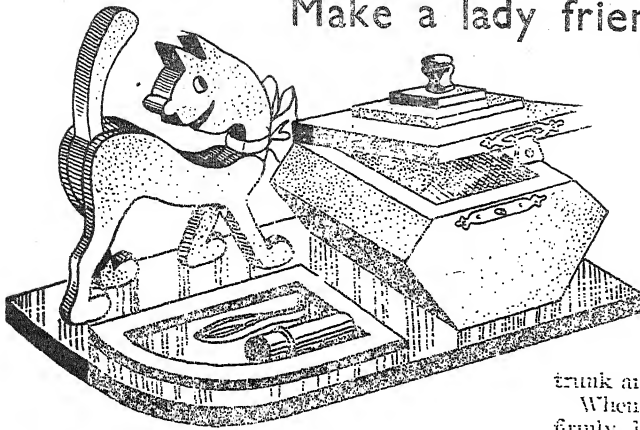


COMPLETE POLISH OUTFIT

Here you are—everything you need to make a first-class polish job. Three kinds of powder stain, bottle of polish, woodfiller, glasspaper, and cotton wool for the “rubber.” Full instructions that anyone can understand. This outfit is put up in a useful box and comes in two sizes:—“Junior” 2/3 and “Senior” 3/6, post 6d. The larger outfit is practically double size all round.

Make a lady friend this

POWDER BOWL



LADIES will appreciate the powder bowl novelty seen herewith. It is made throughout from $\frac{1}{4}$ in. birch plywood and finished in bright enamel. It is a simple little thing and apart from the powder bowl idea, the cat (and what a cat!) is a useful feature as well as being ornamental.

The tail comes in handy for holding rings and similar things. The tray in front of our feline friend is also ideal for odd articles such as lipstick, tweezers, etc. The bowl space inside is 2 ins. by 2 ins. by $\frac{1}{2}$ ins.

Powder puffs are obtainable all sizes one of which will suit the bowl and permit a small mirror (if desired) to be glued to the lid. Get the idea?

Making the Bowl.

The construction presents no difficulties although it is approached in a rather singular manner. It consists of two sides between which are glued eight "scalloped" or cut-out centre pieces as shown by the arrow at Fig. 2 and in the illustration.

The centre pieces are first glued evenly together and then (when the glue has dried) cleaned up with a half-round file and glasspapered at the inside only. Do this neatly, and don't rub too much lest you spoil the top flange shape. Any inevitable roughness, by the way, will be hidden with fancy paper, this being used in lining the bowl cavity.

At the moment, attach the sides, then clean the work all over with coarse and fine glasspaper. The lid (A) is a piece of $\frac{1}{4}$ in. stuff $2\frac{1}{2}$ ins. square. The pieces adhered on top are $\frac{1}{4}$ in. stuff, part B being $1\frac{1}{2}$ ins. square, with part C 1 in. square. The knob (D) is attached after, of course, a suitable hole has been drilled for the stem of same.

The lid can be hinged on the outside or you might prefer to make little recesses in the top edge of the side so the lid rests flush all round. A small brass box catch (No. 6219) is added as shown.

MATERIALS REQUIRED

- 1 base piece, 6 ins. by 3 ins. by $\frac{1}{4}$ in. thick.
- 5 bowl pieces, 7 ins. by 2 ins. by $\frac{1}{4}$ in. thick.
- 1 lid piece, 2 ins. by 2 ins. by $\frac{1}{4}$ in. thick.
- 1 tray piece, 3 ins. by 2 ins. by $\frac{1}{4}$ in. thick.
- 1 cat piece, 6 ins. by 6 ins. by $\frac{1}{4}$ in. thick.
- 1 turned knob, No. 49.
- 2 brass hinges, $\frac{1}{4}$ in. long.
- 1 brass box catch, No. 6219.
- 1 oval mirror, No. 5701 (optional).

trunk and two legs.

When gluing the three pieces together, press firmly between the fingers, then set the work upright on a flat surface and press down any "paws" not in contact, otherwise you will experience trouble in fitting properly to the base.

Fixing the Cat

The paw tenons should be rounded with a file, after which the base and tray shape is cut out, the former from $\frac{1}{4}$ in. wood and the latter from $\frac{1}{8}$ in. wood. Glue the bowl in place (see dotted lines indicating position of bottom) and attach the tray flanging.

To attach the cat, set it in place and mark around the leg tenons with a pencil. Drill $\frac{1}{16}$ in. holes and glue the "midnight prowler" in place.

This completes the construction, and regarding the finish, the base, bowl and tray could be enamelled jade green. The cat could be painted black for luck, the eye being touched in with a spot of white paint.

A little silk bow around the cat's neck hides the shoulder joints and sets off the work. Green baize covers the bottom.

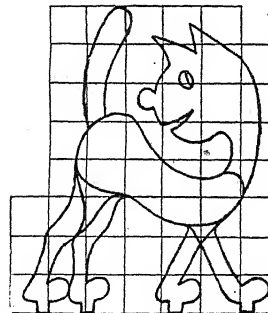


Fig. 1—Cat outline in $\frac{1}{4}$ in. squares

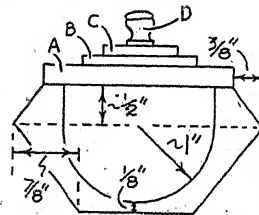


Fig. 2—Bowl size and shape

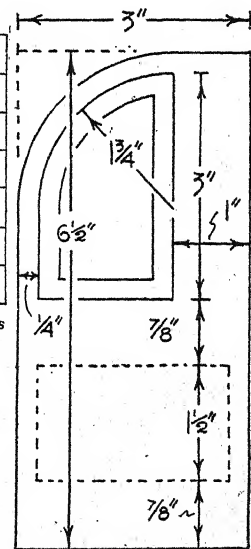


Fig. 3—Dimensions of base

SCOUT PATROL LOCKERS

HERE is a splendid piece of work for the scout carpenter; a handy Locker Set for the club room. So that each patrol may keep its things separate and no question then, as to who are those untidy chaps!

And, of course, it would be equally useful in the home, too. A straightforward piece of work that any amateur woodworker may safely undertake. It has six useful-sized compartments with (for Scout use) an overlay on each door indicating the name of the patrol to which that particular locker belongs.

Deal or oak are both quite suitable. The measurements given have been worked out so you can use in every case, an even number of 8 in. by 1 in. boards. This saves cutting and simplifies the construction. Of course, if bought ready planed, these boards will only measure $7\frac{3}{4}$ ins. by $\frac{7}{8}$ in. actually. So provision has been made for this, and in the cutting list the actual dimensions of the finished wood are given in every instance.

Construction

It will be seen that two boards make up the width in every case. Cut these to the measurements given, chisel out $\frac{1}{4}$ in. grooves where

CUTTING LIST

| Pieces | Description | Length | Width | Thick |
|--------|------------------------|------------|---------------------|-------------------|
| 4 | Top and Bottom .. | 4ft. 2ins. | $7\frac{3}{4}$ ins. | $\frac{1}{2}$ in. |
| 2 | Interior Horizontal .. | 4ft. 0ins. | $7\frac{3}{4}$ ins. | $\frac{1}{2}$ in. |
| 4 | Sides .. | 3ft. 0ins. | $7\frac{3}{4}$ ins. | $\frac{1}{2}$ in. |
| 8 | Interior Uprights .. | 1ft. 6ins. | $7\frac{3}{4}$ ins. | $\frac{1}{2}$ in. |
| 12 | Doors .. | 1ft. 6ins. | $7\frac{3}{4}$ ins. | $\frac{1}{2}$ in. |
| 5 | Back .. | 4ft. 2ins. | $7\frac{3}{4}$ ins. | $\frac{1}{2}$ in. |
| 6 | Overlays .. | 10ins. | — | Three-ply |

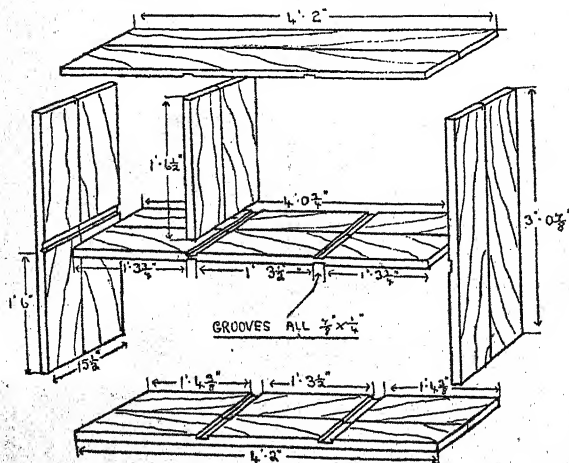
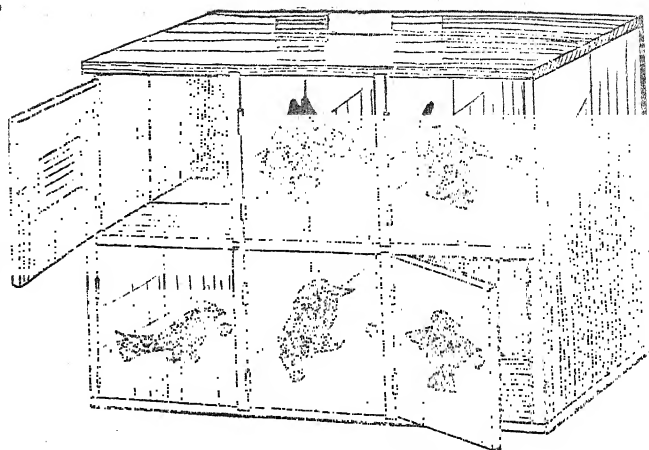


Fig. 1—Constructional details and sizes



indicated, then glue each pair together and allow to set thoroughly before assembling. Fig. 1 shows quite plainly how the parts fit together.

Five boards are used for the back. These can be nailed on singly, when the frame has been assembled.

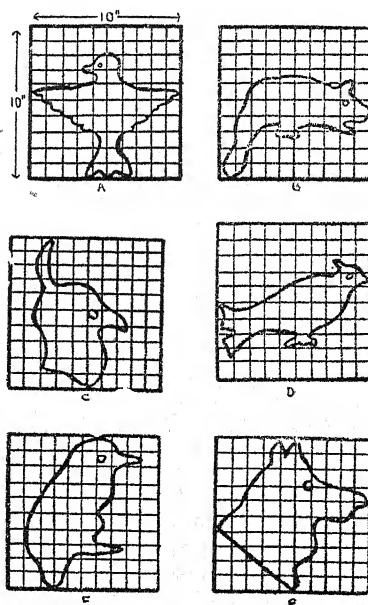
It will be found that these five boards make about $\frac{1}{8}$ in. more than is required, but this can be planed off the top board after it has been fixed in place.

The Doors

Now the doors can be hung with two ordinary hinges. Either a simple catch, or a lock, can be fitted to each as required.

Ordinary three-ply is quite suitable for the overlays. We give designs for six of the most popular patrol emblems, already ruled up into 1 in.

(Continued at foot of next page)



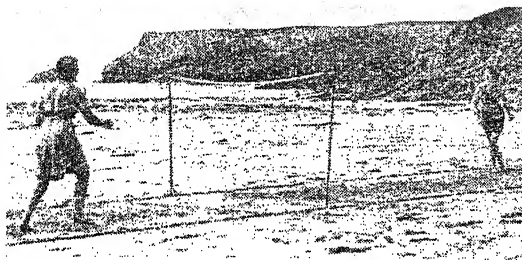
Six patrol emblems in 1 in. squares: Wood-pigeon (a). Beaver (b). Peewit (c). Cuckoo (d). Kingfisher (e), and Wolf (f)

GAMES FOR THE HOLIDAYS

THE holiday season is with us once again, and readers will find it a great help if they prepare in advance a comprehensive list of games, etc. which can be referred to whenever the question arises "what shall we do next?"

Such procedure is particularly desirable when contemplating a holiday in the country or at one of the smaller seaside towns which do not offer many "ready-made amusements."

With large parties such games as cricket and rounders are always popular, and athletic contests can be arranged. For the evenings, concerts and informal dances can be made a great success if well prepared before hand.



How to play deck tennis on the beach

But it is useless to leave everything until the time, and then expect members to produce a good programme impromptu. The best plan is to appoint a committee to make arrangements for such functions well in advance.

Small family parties, on the other hand, will favour such games as deck tennis. For this a court is easily marked out on the sands, as shown in the photograph. In the country, lengths of tape may be used for the purpose, being pegged down with meat skewers.

The size of the court is not really of great importance and may be varied to suit the agility of the players. Nor is a proper set of posts and net essential. Two long sticks stuck in the ground with some rope stretched between them will serve well.

A Suitable Ring

Play is with a rubber ring. This costs 6d., and can also be used for playing quoits. The general principles of ordinary tennis should be followed as far as possible, the ring being thrown backwards

and forwards over the net without being allowed to bounce.

The strip marked across the court underneath the net is "no man's land"; and a ring dropping within it is regarded as having landed out of court.

Another version of the tennis game can be played with one of these large rubber balls which are so popular at the seaside. In this case no net is required, but the "no man's land" strip is made wider. The ball is struck with the flat of the hand, and may be either volleyed or allowed to bounce, as in ordinary tennis.

The firm sand left by the receding tide is excellent for such games as clock golf or putting, and if desired a huge bagatelle board can be marked out. Play is carried on with tennis balls which are rolled up the "board" by hand.

To fill up an odd half hour one can always fall back on a game of French cricket, or a pebble throwing contest.

Do not, however, use an empty bottle for your target. Many nasty accidents are caused by broken glass which thoughtless people leave on the beach; and there are plenty of other objects which can be used for the purpose.

Also, never throw anything over the edge of a cliff. It may strike someone hidden from view;



Bagatelle marked out on the firm sand

and even a small stone can cause serious injury when falling from a great height.

When going for a holiday we naturally hope for fine weather, but those who are wise will also be prepared for the wet days if they come. On such occasions a set of Hobbies Indoor Bowls will be found invaluable, and it is also well worth while to have a dart board, a pack of cards and some draughts or chessmen available.

Scout Lockers—(Continued from previous page)

squares for easy copying. Skipper will no doubt be able to supply you with any others you may require.

When all the six lockers are not needed for patrol use, the extra one or two are sure to be handy for Skipper's own kit, or for storing oddments of communal camp property.

Each patrol leader will, no doubt, be entrusted to finish off the interior of his locker to suit

individual requirements. Shelves for books, maps, and the like, and hooks for such things as rope and knives, are easily added.

It is a good plan to fix on the inside of each door a card bearing the names of the members of that patrol.

A coat of some serviceable coloured paint, or stain and varnish, with the overlays in a contrasting colour, completes the set.

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or I/I/I/I, are counted as one word. Postal Order and Stamps must accompany the advertisement. It will be inserted in the earliest issue. To sell anything except in the Hobbies or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

100 STAMPS, all different, sent genuine applicants for approvals. Postage 2d.—Errington Macquire (O), 51 Atkins Road, London, S.W. 12.

BOYS! Learn the 'why' and 'how' of electricity with a Hobbies Electrical Outfit. Fun, fascination, thrills galore. Prices from 3/—Hobbies Ltd., Dereham.

6/- IN THE £ COMMISSION. Xmas Club Agent wanted.—Garratt, Stockley Street, Northampton.

DOLL'S HOUSE Papers, Fittings. Bathroom set, fireside set, door knocker, etc. Write for list.—Hobbies Ltd., Dereham.

50 STAMPS FREE. Approvals 2d. stamp.—Paul, 43 Bramley Road, London, W.10.

MAKE YOUR OWN UKULELE, Mandolin, Guitar, etc. from Hobbies designs and materials. You'll be surprised how easy and cheap it is!—Hobbies Ltd., Dereham.

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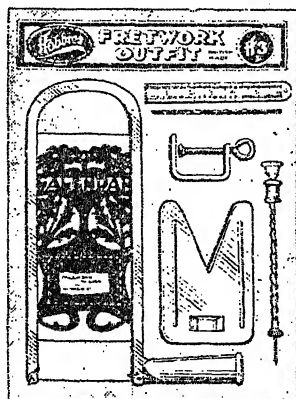


The Popular H3 OUTFIT

Contains a 12in. handframe with saw, 1 dozen extra sawblades, fretwork drill with drill point, steel cutting table of new and improved design, clamp for table, 6in. rule, and a fretwork design with instructions. On attractive card.

3/9
Post 6d.

Two Low-Price FRETWORK SETS



A cheaper edition of the standard Hobbies Outfits. If your purse is small... here's your chance to buy a set of guaranteed Fretwork tools suitable for the young beginner.

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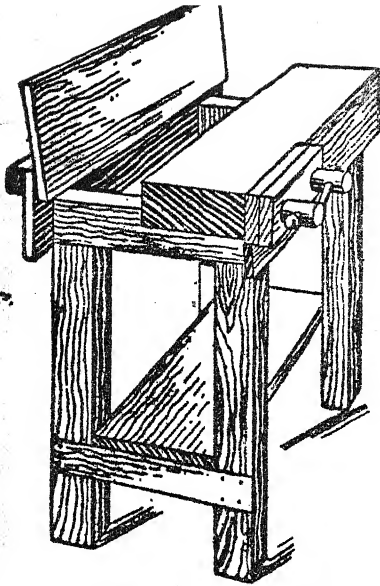
Branches and Agents
in principal cities
and towns.



H2 OUTFIT

Value made possible only by the huge quantities produced and sold. Contains a 12in. handframe with saw, 1 dozen extra sawblades, cutting table and clamp, fretwork bradawl, design and instructions. On bright card.

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The Bench You've always wanted!

No longer need you deny yourself the pleasure and satisfaction of owning a good Bench. For as little as a guinea you can now buy a strong, rugged bench with tool compartment and double-screw vice. A bench that will stand up to any amount of hard use. Not a flimsy article offered at a cut price, but an all-round practical bench that will bear inspection by the most critical craftsman. Don't wait a day longer. Get YOUR bench now!

A Real Practical Bench at a Popular Price

Solid 3-inch top dowelling to the framework for strength and rigidity. Legs and cross rails 3×3 inch. The hinged lid, when raised, reveals a receptacle running almost the whole length of the bench. This is just the place you have always wanted for storing tools, etc. A tool rack for holding saws, chisels, etc., is also provided. The double-screw vice is of hardwood.

TWO HANDY SIZES

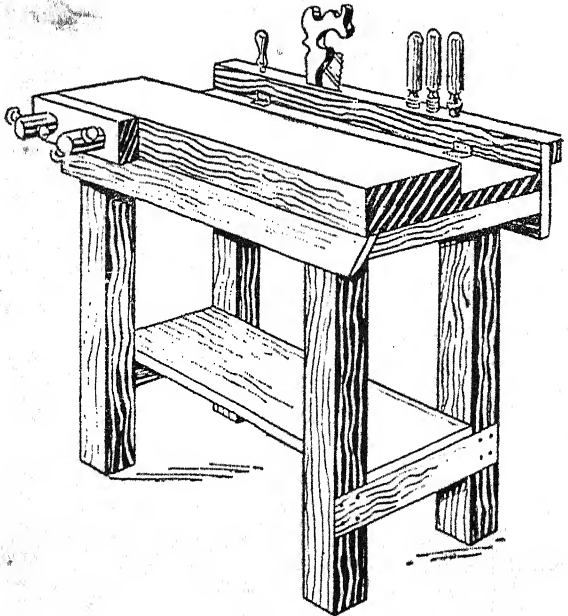
3 ft. 25/-

2 ft. 6 ins. high, 1 ft.
4 ins. wide with 12
in. double-screw
wooden vice.

3 ft. 6 ins. 27/6

2 ft. 8 ins. high, 1 ft.
8 ins. wide, with 15
in. double-screw
wooden vice.

Carriage Forward



Hobbies Ltd. Dereham

Branches and Agents in principal towns

Notice the sturdy legs, cross-rails and top.

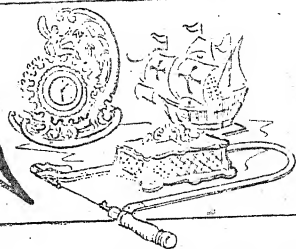
A bench like this will give years of service.

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Hobbies

WEEKLY

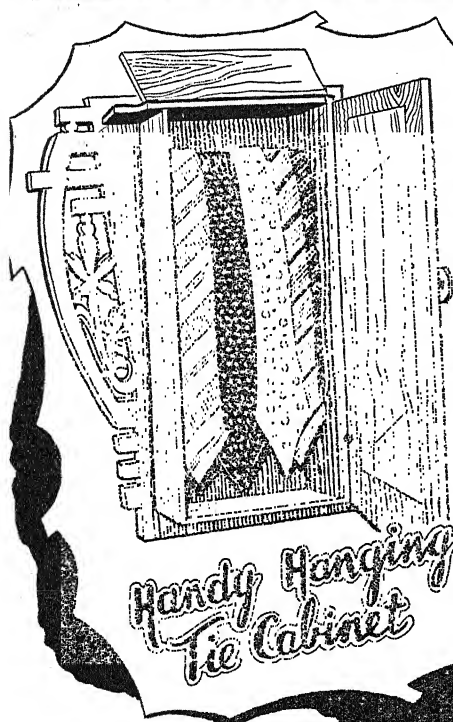


July 30th. 1938

Vol. 86. No. 2232

SOME of us who have got a bit stiff about the joints must not forget sometimes that things are different now to what they were when we first learned them. Reminder of this

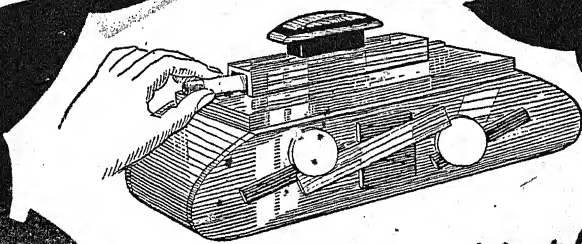
been made. By the next post, almost, I heard of a Grammar School at Swansea where a similar large Exhibition is conducted each year of some comprehensive layout in which all the boys co-operate



Handy Hanging Tie Cabinet



Simple Seaside Float



Cigarette and Match Delivery Box

July 30th. 1938

Vol. 86. No. 2232

2^D

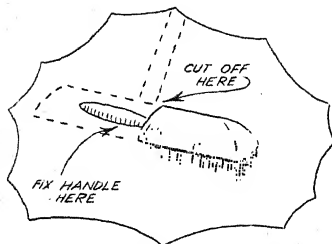
THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL



For original Tips published the sender will receive 2 dozen Fretsaw Blades. We cannot acknowledge all those received or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

Cheap Bench-Brush

HERE is a way to make a cheap bench-brush for woodworkers. When a cocoa or soft broom is worn too much for convenience, take the head and saw



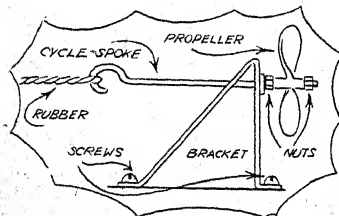
across the middle; next shape a handle and fix in the sawn end. Trim off and varnish, and you have a useful brush as shown.—(A. H. Wright, Carcroft).

Repairing Canoe Leak

DRY the inside thoroughly, then put it back in the water and mark the places where it leaks. Cut a piece of eight-ounce canvas large enough to cover the leaky part. Put a thick coat of glue on the wood and also on the canvas. Press the canvas on, working the air bubbles out and tack with copper tacks about $\frac{1}{2}$ in. apart.—(R. Young, Crewe).

Fixing Propellers

INSTEAD of fixing propellers by solder, cut a piece of cycle spoke to the desired length and bend to a hook (the side away from the threads). Now put on a washer, screw on a nut, put on



propeller, and screw on another nut. By this means it is possible to take off the propeller if necessary. The whole thing is clearly shown in the illustration.—(D. Barty, Lucknow, India).

Hinge Pad

WHEN faced with the problem of fastening new hinges on a door where the old hinge came off, it is often found that the new hinge is not thick enough. Do not use wood to block the hole, as in most cases it would split, but cut out a piece of leather and use that.—(R. G. Foord, Chatham).

To keep Axe Heads on

VERY often when you have put on an axe head, the wedge works loose. To prevent this, fill the slit where the wedge goes with strong liquid glue. Also put glue on the part of the handle that goes in the head. The handle will now not work loose.—(H. G. Yeomans, Newark).

Shaping Hulls

TO make the hull of a ship smooth, rub with the edge of a straight piece of glass. This is often better than a plane as it makes the hull smoother.—(L. J. Bull, Gt. Crosby).

Removing Rust

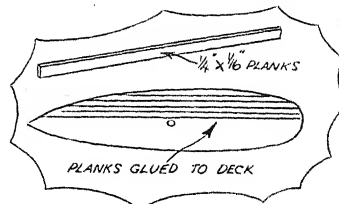
IF the handle bars, brakes, etc., of your bicycle (chromium-plated) have rusted, follow this tip. Take a piece of "silver paper" from round a packet of cigarettes or a bar of chocolate (any tin-foil will do), wet it, and rub on the rust. It will leave your bicycle as good as new.—(J. Burfoot, Maidstone).

A Weather Glass

HERE is a weather glass I have found to be quite accurate. All you need is a vial used for tablets, with screw cap as well. Put a small hole in the middle of the cap, and next get a piece of tin about an inch wide and 4 ins. long. Bend to fit round the vial to hold it to wall, and next fill the vial full of water. The weather glass is complete, for when it is going to rain, the water will begin to drip, and when it is fine, no water will drip.—(R. W. Barley, King's Lynn).

Galleon Planking

I HAVE made a few galleons and lined the deck with pencils but I have a better idea. Cut quarter strips of $\frac{1}{16}$ thick wood



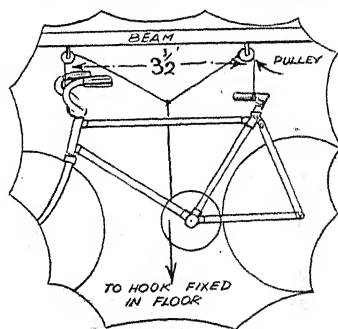
of any description and place on the deck as the ships deck is built at the present day. This, I find makes a splendid job.—(J. Gibson, Aberdeen).

Elastic Lubricator

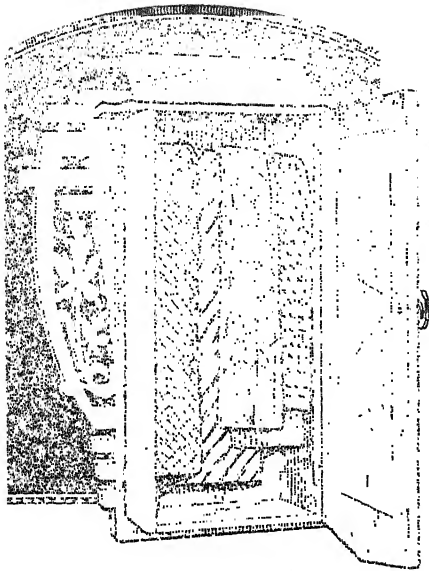
A CHEAP way to lubricate aeroplane elastics, is to take a small piece of soft soap and add to it three drops of glycerine. Then rub it into the elastic. The glycerine keeps the soap moist and so gives the elastic more power, so it lasts longer.—(C. E. B., Rothwell).

Bicycle Lift

TO hold a bicycle when cleaning or repairing, have two pulleys (single wheel) screwed into a beam in the ceiling of a garage or shed, about $3\frac{1}{2}$ ft. apart.



Then fix up sash or window cord over pulleys as shown in diagram. By means of rope "A" bicycle can with greatest ease be lifted and lowered. (G. Seftor, Edinburgh).



Be a tidy chap—have A TIE CUPBOARD

A sound piece of work to make. All patterns on this week's Gift Design Chart—No. 2232. And here's how.

Then, too, notice that half only of the floor, top and door overlay are shown so these patterns will have to be duplicated on the opposite side of a centre line given. Do this carefully by tracing or using carbon paper.

Extend the line of the back with a rule to ensure that the projection of the tenon is accurate and in alignment. If not, it will refuse to fit snugly into the back.

A Start in Cutting

The pattern of the side is shown to scale only, and it is a simple matter to draw out a rectangle of wood on to two pieces each 11 ins. by 1 ins.

With patterns pasted down to their proper boards, the work of cutting can be commenced. It does not matter very much which you start upon, but in any case you should test out the various positions of the mortise and tenon joints before actually completing them.

The construction is quite straightforward when all the parts have been cut and cleaned up. The two pieces forming the back are carefully dovetailed together by means of the shape shown, and this should bring the two mortises in definite alignment.

Joints for Strength

The edges of the back are glued to strengthen the dove-tail and additional binding is provided by the top and base being fitted into their respective mortises.

In cutting the top, notice that this is really in

THE cabinet herewith, whilst primarily intended as shown by the interior view, to be one for holding ties, is just a convenient size for use in a number of ways. It is handy in the bedroom for odds and ends, for a medicine cabinet in the bathroom or for a general service cabinet downstairs.

It is the sort of thing of which any fretworker may be proud, and which he will find quite within the limits of his ability to undertake.

The patterns for it are shown on the gift design sheet this week, and the parcel of wood provides all the necessary boards planed both sides, and cut a suitable size for each part. The main cabinet is in spanish chestnut, but a little relief is afforded by having the overlay round the mirror in a different wood.

That supplied in the parcel is padouk so it forms a striking contrast to the rest of the work.

Study the Patterns First

Before commencing, a word or two is necessary about the design patterns themselves. It will be noted that the back is shown in two halves. This is done in order to make the cutting of the part much more simple.

If you have a machine so being able to undertake the large work in one piece, there is no reason why you should not join the two patterns on the wood and go ahead with it like that.

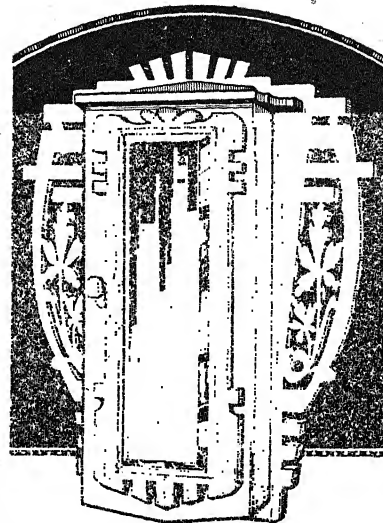
On the other hand if you have only a small handframe work with the back in two halves as shown, paste each part on a separate piece of wood.

MATERIAL SUPPLIED

Fretwood.—For making this Cabinet we supply a parcel of spanish chestnut with padouk for overlay, 2/10, post free 3/4.

Fittings.—Bevelled Mirror (No. 5728) 1/6, a pair each 1in. and 1/2in. brass hinges 3d., ball catch (No. 5479) 2d., and knob (No. 6208) 3d. Complete, 2/6 post paid.

A complete parcel of wood and all fittings will be sent post paid for 5/3.



With a handy mirror front

two pieces although cut from one portion of wood. The design pasted down is cut round to outline, then it is split into two pieces by running the saw down the line shown. The two pieces are then re-joined by means of a couple of small hinges being screwed on where shown.

Fixing the Top

Thus the top of the cabinet can be raised to make access to the interior easier. A detail of this top is given herewith, and it is essential to hinge the parts together nicely so the whole thing lies flat when in place.

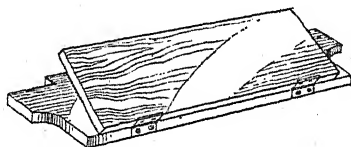
If there is any tendency to lift or warp a little catch can easily be added later on the side and to the underside of this loose top.

Put the top and bottom in first because that rules the position of the long plain sides. These are butted up to the ends of the bottom or floor to come on the underside of the top itself.

It is essential to keep these two sides upright although there is no definite spacing piece between them at the top. The measurement inside these two parts is 5-3/16in. and they



A cut-away view showing the various parts



A detail showing the hinged top

should be glued to the underside of the top.

Further strength can be provided by driving screws in from behind. In doing this, however, make sure to drill your hole first so the screw does not split the comparatively thin wood of the sides.

The door itself is wider than the actual cabinet,

and overlaps the sides in both directions. This, however, makes a more effective piece of work when the whole thing is hinged in place.

The door is cut from a piece of 1/4in. material from the centre of which is taken an aperture to hold one of Hobbies Mirrors (No. 5728).

As the piece which is cut out will be replaced to act as backing, put the drill hole in the corner so it should not be seen too much. Then cut carefully round the piece with a medium saw. Keep the piece of wood which comes out, to replace later.

The Overlay

In the meantime, the overlay can be cut and glued on the front with a projection all round to hold the mirror in place. The hinge of the door, it will be noted, is fitted behind the door itself, and on to the edge of the sides.

At the opposite side from the hinges one of the fancy catches is added which engages inside the cabinet in a little slot cut in the side.

The tie rail itself is a piece of 1/4in. material the top edge of which is rounded perfectly smooth to prevent scratching the ties when pulled out. Measure the piece by the exact width inside the cabinet because it has to glue in tightly between the two sides.

The Tie Rail

It is fitted about 2ins. down from the top and midway between the back and front. The rounded edge is uppermost, and the space available is just sufficient to allow the tie to be hung over this rack and put in out of the dust to be easily accessible when required.

In addition to the detail showing the top, we also have a drawing of the construction of the cabinet. In this half only is shown. It gives the detail of the dove-tail as well as a sectional view of the parts forming the door.

By the way, the mirror in the door is held in place from behind by the part which was taken out, and the whole thing is then held in position by brown paper being pasted over or the adding of photo clips or small nails.

The July Hobbies PHOTOGRAPHIC COMPETITION

Sea, River or Lake Scenes

Everyone who has a camera, stands a chance to win a cash prize in our Monthly Competitions. Two sections—Open and Junior. The available subjects under the above heading are widespread and gives everyone a chance to enter at least one print. There is no entrance fee, but good cash prizes.

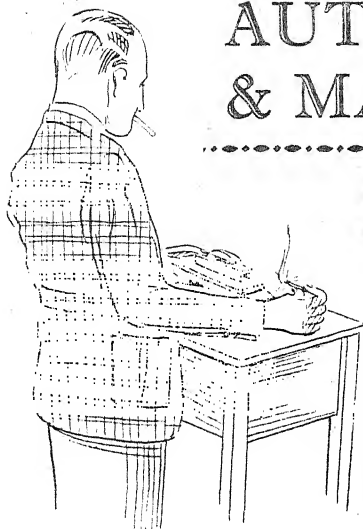
Closing Date : July 30th

RULES AND PRIZES

In the Open Section a 1st Prize of a Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed Amateur Photographic Competition,

Hobbies Weekly, Dereham, Norfolk, and must arrive not later than July 30th. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.

AUTOMATIC CIGARETTE & MATCH DELIVERY BOX



SOME friends have called for the evening, and the correct thing to do is to offer them a cigarette and make them feel at home! No need now to drag out your case or packet from your pocket when you have the handy and novel little casket shown

herewith standing on the sideboard.

Just lift the handle on the top a little way, and out pops a cigarette and the match complete for lighting it! Offer the cigarette, then automatically you get a light. Because as you draw the match out sideways it lights up ready for use.

All the patterns for this useful and novel little delivery casket are printed on the centre pages, and a fretsaw and a few tools can complete them in any ordinary wood. The style is quite modern and the construction of the box can be seen from the illustrations herewith.

There is an outer casing and a central loose box. This inner compartment is fitted with an upright partition down the centre which is grooved or shaped at the top for the cigarette and the match to lie in. Only the centre portion of this inner box projects through the outer casing and finishes above with a handle.

Sloping Floors

The floors of this inner casing, too, slope towards the centre, thus when the cigarettes and matches are laid in, they fall inwards and when the whole thing is raised a certain height, one of each rolls

on to the shaped partition in the centre. The compartment is lowered again, and the remaining contents pass down to await the next operation.

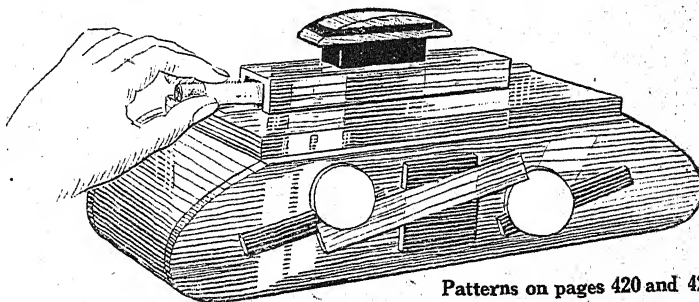
By the way, the matches are naturally of the non-safety type and must be full length. The short ones will not do.

They are laid, too, with their heads inwards so the action of pulling them out ignites them as they pass between two little pieces of emery paper or glasspaper in the channel in the handle.

Lettered Parts

The thickness of the various parts is given with each pattern, and they can be pasted down to the wood in the usual way. Each, too, is lettered and dotted lines are given showing the adjoining pieces. Having cut them out, mark off if necessary where the parts come next to each other, and clean all up thoroughly.

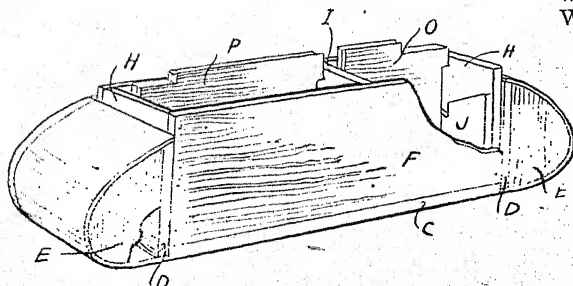
Start with the construction of the main casing or container. Get out the two long sides A and B and glue between them the base C and the upright ends D. Their position is indicated by dotted lines.



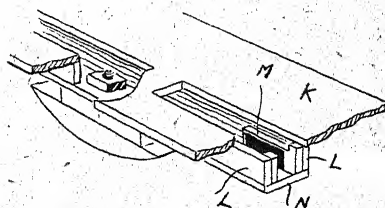
Patterns on pages 420 and 421

Notice the base is flush with the sides, but that the ends (D) are $\frac{1}{16}$ in. short from the top and from the bottom. Immediately outside the ends is the block E which forms the shaping pieces for the plywood.

Nail this on temporarily at one end, then bend it round gradually until it comes to the top. Glue it in place and afterwards nip off any nail heads which may show or withdraw the nails entirely. We thus have the outer casing.



A detail view showing general construction

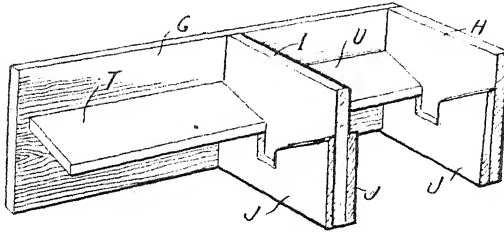


An under-view of the handle and delivery compartments

Now we can turn our attention to the inner box which when made, must slide up and down comfortably inside the outer container. Cut out the ends H, the centre partition I and glue to each the floor rests as shown.

The centre partition I has one of those rests on each side and are fixed to the front F. The floors shown reduced are cut after the design has been extended to 3ins. and 2½ins. respectively.

These floors need very careful attention and



The interior showing sloping floors

will have to be chamfered exactly to fit. The back can be screwed and glued after the floors have been fitted and the whole thing is then put into the outside casing and glasspapered down so it slides easily without sticking.

Top and Handle

The top is formed of one piece K and the two pieces L. Notice the slots for the cigarette and match. The piece I, stands on edge and is surmounted by the piece N with a little interior piece at one end to form the match striking mechanism. The under view of this lid is shown giving details.

Note, too, how the handle (one of Hobbies No. 6216, price, 6d.) is fitted. This handle really has a long shank, but it must be sawn or filed off so

it does not project into the inside of the cigarette compartment. Put the nut just in the channel then turn the handle down into it.

Remember that the whole completed top must not be glued on, but be fitted with round-headed screws in order to allow you to put the contents in place.

The Cigarette Holder

The partition which holds the cigarette and matches is composed of the uprights P and O. Two of each are needed, and when they are glued together the top edge should be shaped with a groove as shown by the section, to catch the cigarette and match when they roll in.

The projecting piece at each end of these portions forms the locking to prevent the box being taken quite out, and catch against the floor rests J in operation.

The partitions are glued to the floor so they project through the top when that piece is in place. Get the partitions upright and in line, and give further strength by driving screws in through the floor. Test these positions first and mark them out on the underside before fixing.

Box Decoration

The front of the box is decorated with a panel, and a suggestion how they can be stained light and dark is given with the patterns. If you wish, a strip of glasspaper or emery paper can be fixed on the back to form an emergency striker for the matches.

The whole thing can be stained and polished or varnished over to give a glossy appearance. This should be done before the overlay is glued on because that will be painted or stained distinctive colours.

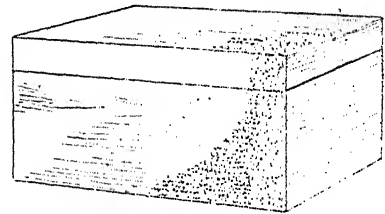
Have you ever tried EGG-SHELL MOSAIC?

HAVE you ever thought of covering a box with egg-shells? It is a form of decoration which works quite well, and looks rather beautiful when it is finished. The surface bears some resemblance to porcelain, and can be used with good effect on photo frames, and white wood boxes—the kind that can be bought at any picture dealer's for about a shilling. Simple shapes are the most suitable.

Egg-shells, of course, are plentiful enough and for your purpose, they may be either all of one colour, or of three colours, using the shells of white and fawn hens' eggs, and the blue shells of ducks' eggs.

How to do It

Always remove the skin from the inside of the shells. Obtain a tube of glue, and start on your box by first smearing a daub of glue on it, about the size of a shilling, and then placing a piece of egg-shell roughly the same size on the glue. Press the piece of egg-shell flat, so that it cracks into small pieces. Continue to do this, until



you have covered the box with the shell.

The various pieces will not always fit closely together, so fill in the blank spots with little pieces of shell separately. You will find them rather awkward to handle unless you use tweezers, or a match stick. By wetting the end of a match stick, it will pick up a piece of shell well enough.

Suitable Patterns

It is best not to attempt any designs of flowers or letters on your box, as this only looks "fussy." It is best to aim at a broad effect by using one colour shell, or the three colours in bold splashes all over the box.

Finish off by cleaning the surface with a damp rag, and then, if you like, covering with a flat varnish. Although this is not absolutely necessary, it adds to the decorative effect, and if there is any point in making it so, the box becomes waterproof.

Have a holiday afloat—on this SEASIDE RAFT

MOST fellows have seen these rafts at the seaside, some of very rough construction indeed. However rough, a lot of fun can be got out of them and one is well worth making.

The particular design given here is of a portable nature and can be conveyed from place to place during the season and stored at home when not in use. A coat of paint every season and it will last a long time. It depends upon car inner tubes for its buoyancy—a great advantage, as the tubes can be deflated when not in use and packed in a small compass.

The back rest, of the raft is hinged, and when let down forms with the side pieces a box like container into which the tubes can be packed. A glance at the illustrations shows how simple the whole affair is and how cheap to construct as no great amount of wood is required.

Timber to Use

For the timber red deal can be used, reasonably free from knots. Fig. 1 is a plan view, and shows the position of the inner tubes underneath. Fig. 2 is a side view. The sizes and thicknesses of the parts are given in the cutting list.

Prepare the end battens A, and screw the floor boards to them with brass screws from underneath. Countersink these screws, in fact all the screws.

Use brass ones as iron ones will rust eventually. With the floor boards $4\frac{1}{2}$ ins. wide, a space of $\frac{3}{4}$ in. will be left between them, allowing water to run away.

Side and Foot Rest

The side pieces, B are nailed to back piece C and the whole screwed to the floor boards. The foot rest D is now screwed across.

In all probability the distance from the front shown for this part will be found quite convenient, but, as people's length of leg varies such a lot, its position can be altered to suit individual requirements. Round off the ends of the raft as shown.

The back rest consists of three boards, tongued and grooved together and secured at the back with battens, screwed across. Paint the tongues and grooves with thick paint before knocking the boards together. The back rest can now be hinged to C with brass hinges, as in detail sketch, Fig. 3.

| CUTTING LIST | | | |
|---|-----|---------------------------|---------------------|
| | No. | Length. | Width. |
| Floor boards | 3 | 5ft. | $4\frac{1}{2}$ ins. |
| Battens A. | 2 | 1ft. 3ins. | 3ins. |
| Footboard D. | 1 | 1ft. 3ins. | 2ins. |
| Side pieces B. | 2 | 1ft. 3ins. | 3ins. |
| Back C. | 1 | 1ft. 1 $\frac{1}{2}$ ins. | 3ins. |
| * Back rest | 3 | 1ft. 3ins. | $5\frac{1}{2}$ ins. |
| Battens for above | 2 | 1ft. 3ins. | 2ins. |
| * T and G boards to make up | | 1ft. 3ins. | |
| All boards $\frac{3}{4}$ in. thick except D, which is | | | 1in. |

To keep it at a convenient and restful angle you can fix a pair of stays, as shown. There is scope for alternative treatment here, especially if the fellow using the raft is rather broad built.

In such a case the sides of the body may tend to rub against the stays during the motion of paddling. To prevent this strong cords can be used as stays, or webbing perhaps. It is not a very important point and can well be left to the user to settle to his own satisfaction.

Almost any garage can supply a pair of second-hand car inner tubes cheaply enough. See that they are sound, or have them made so before purchasing.

Fixing the Floats

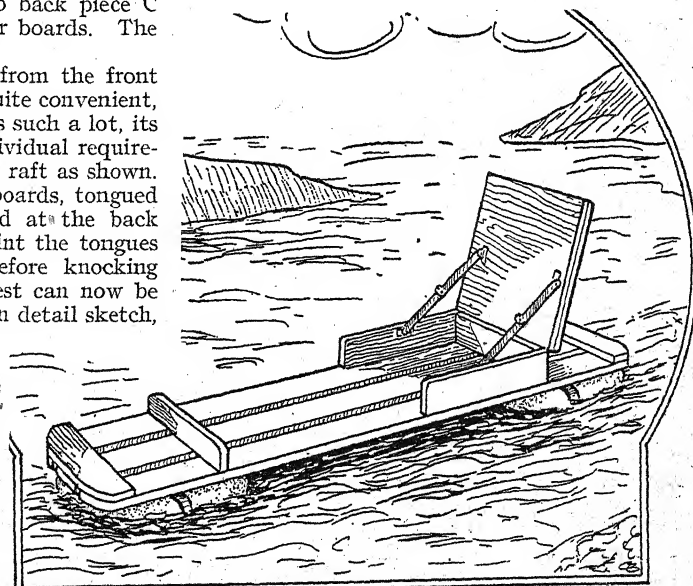
The tubes can be fixed to the underside of the raft with leather or webbing straps, the former will last longer. The lengthy straps as used for securing luggage are the kind to get.

Fig. 3 shows an underside view of one end of the raft to explain the arrangement of the straps. Four leather strips are screwed at the spots shown, under which the strap passes.

One end then goes round the tube, then under the leather strips again, and is passed round the tube once more on the opposite side and there fastened. Partially inflate the tubes before fixing the straps, and when fixed then inflate fully.

Rub off all sharp edges of the raft with coarse glasspaper and finish the whole surface with a thorough scouring of medium glasspaper until smooth and free from splinters and roughness.

Give the wood a coat of priming colour to fill



the grain, and then two coats of best lead paint, any colour you like.

Painting and Packing

Use good quality outdoor paint, not the cheap interior stuff, as salt water plays havoc with the latter. For easy conveyance, the tubes are de-

A light, double-bladed paddle will be required. This can be bought, but, for a simple, knock-about craft of this nature a cheap and simple paddle can easily be made as shown in Fig. 5.

The blades are cut from $\frac{3}{4}$ in. thick oak or beech, and the handle from a broomstick. Shave the

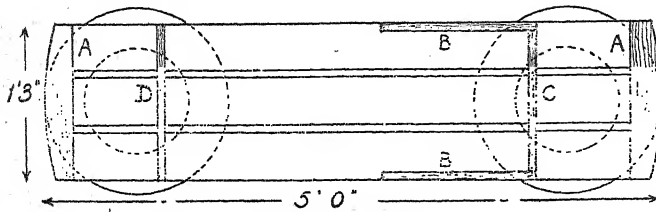


Fig. 1—Plan view

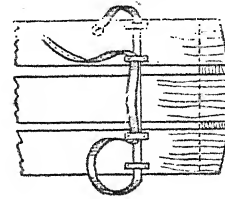


Fig. 4—Underside view of tube straps

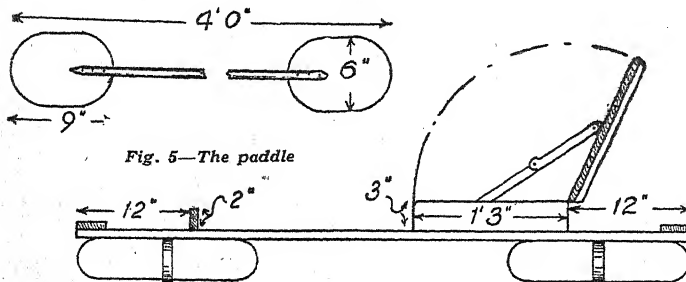


Fig. 2—Side view

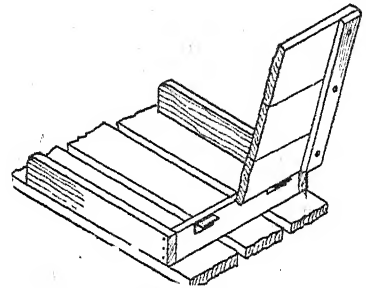


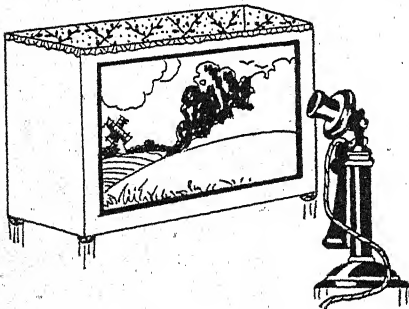
Fig. 3—Detail of back rest

flated, packed between the side pieces of the raft, and the back rest folded down.

Pass the straps over all to secure the tubes, and then the raft can be easily carried or treated as an item of ordinary luggage if travelling by train or car.

edges of the blades, reduce the ends of the broomstick to form flats, and screw the blades to the flats. Then finish with paint or varnish.

When packed for travelling, the paddle can be strapped flat to the underside of the raft and there will be safe from breakage.



SIMPLE HOLDER FOR THE TELEPHONE BOOKS

the corners. Paint the box some restful colour like dark blue or green.

The inside can also be painted, or neatly lined with a piece of dark wallpaper, which is advisable if the wood is not quite so smooth as it might be. A nice finish is made by gluing a piece of gold galloon round the top and driving in a few small nails here and there to give added security.

Ornamentation

As ornamentation to the box, stick on some suitable coloured picture—landscape, a flower plate, or perhaps a sporting print—old maps too are favourite decorations, and look extremely well. Or, of course, you could use a Hobbies Transfer.

Be careful to place the picture in exactly the right place; it is advisable to indicate the spot with light pencil marks before the final fixing.

Spread thin transparent glue lightly and evenly over the paper, and press well out from the centre to avoid any wrinkles.

“A PLACE for everything and everything in its place” can be well said of Telephone Directories, which look so untidy lying about—especially when such nice cases can be made from the foundation of a wooden box.

Choose a fairly light but strong one: if you have a box the right size so much the better. If not cut one of the approximate size down to fit.

Telephone Directories vary in thickness, so this must be taken into account when planning for the case. Rub the wood down very smoothly with glasspaper and screw in four small legs at

Useful hints how to make more INTERESTING SNAPS

THIS is not going to be a description of any new process, neither is it going to suggest how you should take any particular subject or view with the idea of making a better picture. But if you will read on, you will probably agree at the end that it is something worth while trying for.

Not only will it prove of interest to you, but it is quite certain it will give your friends greater pleasure when they are shown the results of, say, your camp or other holiday experiences.

Keep a Picture Story

From time to time one meets a friend who has just returned from a holiday. He starts telling you what a wonderful time he has had and very often will bring out a wallet of films and prints. The latter are passed to you one at a time and you make remarks such as "This is very good. 'Where was this taken?' and similar expressions.

You are, perhaps, interested in a few of them, but if a fuller description was written on the back of each you would undoubtedly be impressed with the idea. When you visit a picture gallery you somehow find yourself looking a little longer at the pictures which have a title.

Add Suitable Wording

The artist has put it there to give you some idea as to what was in his mind when he painted the scene. This fact makes it easier for you to 'read' the picture and to look for details which you might otherwise overlook.

Prints, when they come back from the chemist, have no room for titles but there is no reason why these should not be written, with a soft pencil, on the back. That is one little tip for you, but it is not the principal one which we desire to give you.

Some few years ago the author spent a most enjoyable holiday with a party of ten friends. We met at Waterloo Station and as there were a few moments to spare before the train left we took one or two snaps of the engine and the driver also of the party outside the carriage.

There were four or five cameras in the party and during the fortnight we were together, probably three to four hundred snaps were taken including two which I took on the return to Waterloo when the party was breaking up to go their various ways.

Sharing Out

The writer's collection of prints contained many that were of interest only to himself, but naturally there were others which were of general interest to all the members of the party.

These were separated and collated into the different days of the holiday. Then, instead of titling them or writing a description on them or placing them in an album in the ordinary way, a short story was written of each day's doings and the photographs used for illustrating the story.

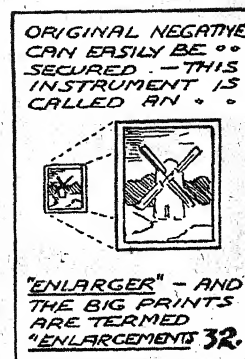
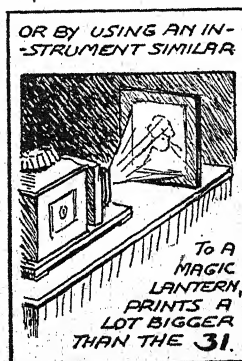
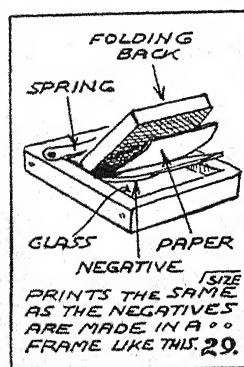
Now, do not run away with the idea that this calls for literary talent or a lot of time. It is perfectly simple and only needs a fairly good or an average memory.

Holiday Records

It is usually easy enough to remember any outstanding items of interest or little bits of fun which occur at these times and it is these which you want to weave into the story and it is surprising how much the photos will recall.

Those of you who still have your holidays to come can prepare during the holiday quite a lot of material for the story by keeping notes of each day's happenings. Then piece them together when

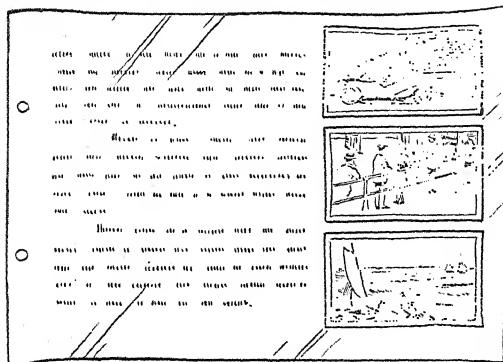
Our Photographic Feature Strip



you have developed and printed your snaps and when you have finished the work your friends will be much more interested in your photographs than they otherwise would be.

You, too, will have something to which you can turn and enjoy for many years.

The procedure is as follows. Purchase a loose-leaf album, it need not be a large one or one that is expensive but see that it is fairly strong and



How the page of pictures and story can be set out in the loose-leaf album

capable of much handling. Then a pot of good mountant is necessary to stick the prints on to the leaves.

If you select brown coloured leaves then you must have a bottle of white ink, but if the colour is grey, cream or white, then ordinary black ink will serve your purpose.

Now collate your snaps into days and run through your mind what you are going to write about that day's outing or fun.

The First Incidents

The first page may have a record of the meeting of the various members and be illustrated with a photograph of the engine or coach, the driver, etc. and with a snap of the party. Overleaf there can be a snap of the station master at the place where you leave the train, and of all our luggage in a pile on the platform.

So the story goes on from one day to another and from one incident to another during the whole of the holiday.

Now from what has been written you can see there is nothing difficult or impossible for any of you to tackle. Whatever time or money you spend on it will be well worth while for the extra interest that not only you, but also your friends will derive from it.

Unspoiled Prints

There is also this other aspect of the work. It will be the means of keeping your prints in a good condition and you will know where to find them. How many prints have you spoiled through carrying them in your pocket or bag, or lost through forgetting where they were put?

There is another little tip which will perhaps be of service to our younger readers who have but very little pocket money to spend on their photography. Instead of buying an expensive album, make a very useful substitute.

Suitable Paper

Get a few sheets of fairly stout paper, such as Whatman's Drawing Paper, and carefully cut these into a convenient size for your purpose. Then have two holes punched in one of the sides of the sheets.

If you cannot borrow such a punch at school ask your father or a friend to take the sheets to his office where they are almost certain to have a punch. The size of the holes should be about $\frac{3}{16}$ ths or $\frac{1}{4}$ in. in diameter and about 4 to 6 inches apart according to the size of the book.

Stiff Cover

Then cut two pieces of cardboard to the same size as the sheets and have two holes punched in each of these and at the same distance and place as those of the sheets.

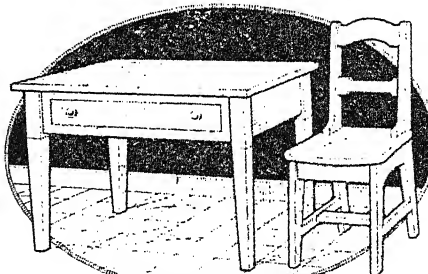
It is possible to buy covers for loose-leaf books in some stationers and if they cannot supply the covers you should have no difficulty in obtaining the screw pillars. They are small brass rods about $\frac{1}{16}$ in. long with a flat disc at one end and an inner thread at the other end into which the other portion screws.

The Cost

The total cost of such a book should not be much more than a shilling, but that, of course, depends on how many leaves you put into it.

Another way in which to economise is to paste the prints and to write on both sides of each sheet but this is not altogether advisable, unless you feel that a blank left-hand page breaks the continuity of your story.

Patterns for this DOLL'S KITCHEN model free next week



See Page 412 for July Photographic Competition

For camping or touring you need CYCLING BAGS AND PANNIERS

WHEN going on tour the question of carrying the luggage easily and comfortably is an important one.

You can indulge your fancy as much as you like in the matter, but bear in mind that two fair-sized packages are better than a number of small ones.

The ordinary cycle-bag which is provided with most of the roadster models is very handy for general use, but when touring, with or without a tent, you need something that will carry your luggage without having to distribute it all over the machine. By the way, avoid carrying anything on your back. Rucksacks are the right thing for hiking tours, but not for cycling.

Perhaps the ideal method is to have a pair of front and a pair of rear panniers. This enables the weight to be evenly distributed, fore and aft, as a sailor might say. The steering is unaffected, and there is no "top-heaviness" worth mentioning. Let the machine carry all the weight, and have nothing to do with knapsacks or haversacks.

A Saddlebag Carrier

For week-end touring, where little luggage is carried, the saddlebag is quite good. It should be of stout grey canvas, strong, waterproofed, and complete with leather straps and leather reinforcements where friction is likely to occur.

You can get such bags, some fitted with two or three roomy outside pockets, for 15/- or 17/6. The outside pockets serve for tools and maps, etc.

You can also get a cheaper bag of stout waterproof material for less than 10/-, but do not be put off with shoddy stuff.

If necessary fit one of the lightweight carriers now on the market to carry the bag, specially designed to clear the rear mudguard. Rear carriers are also specially made for use with rear panniers, to fit all types of machines, prices from 2/6. Note, when purchasing such a carrier get one suitable for the machine you are riding—whether fitted with roller lever brakes and D stays, or with calliper brakes.

Panniers for Touring

For long distance touring or when cycle-camping it will be wiser to fit panniers. Rear pannier bags for use on the back carrier can be obtained from about 15/- per pair; size 12ins. by 8½ins. by 3½ins.; weight about 2 lb.

Front pannier bags can be had from 7/6 per pair, the type of panniers carried slung over the top bar and secured by a single strap round head of the cycle. No carrier is required.

You can make your own panniers quite easily, and you can save money by so doing. Get two army pack bags from the nearest army stores—

secondhand will do if in good order. Cut off the shoulder straps, and to make suitable clips for clipping on to the carrier, use two pairs of the old type of slip-on trousers clip.

Fitting the Panniers

Fasten these to the pannier bags by means of a nail slipped through the looped end of the clip. Now secure the clips to the bags by stitching the nails to the canvas (see sketch) with strong twine. You will find that it is a simple matter to attach the panniers by the clips to the frame of the rear carrier.

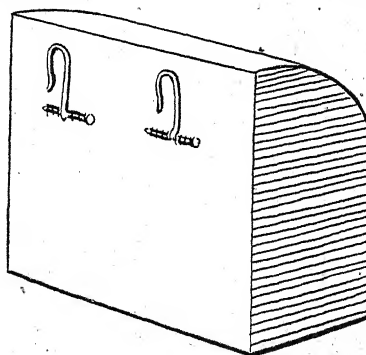
The clips, it may be added, should be fixed to the sides of the bags at a convenient distance from top of panniers. If desired, you can stiffen the bags with some kind of a stiffener inside, whatever material you have handy that will suit the purpose.

It is as well to have two other straps independent of the panniers, to go round each bag over the carrier, under and over the opposite side and back to the other end. This will take all the weight when the panniers are loaded.

Telescopic Valises

Now we come to another type of luggage carrier, which is very useful when you have more luggage than the panniers will hold. The telescopic valise is intended to be used in place of the old collapsible Japanese basket.

These valises are usually made in dark tanned, or grey, proofed canvas, and the ends are stiffened with fibre-boards. Size 12ins. by 7ins. by 5ins. weighing about 1½ lbs. costs eight or nine shillings.

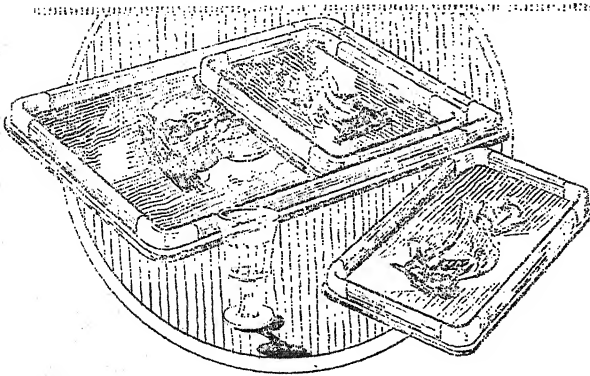


Showing clips attached to home-made panniers by nails

Sometimes you can manage with one of these telescopic valises instead of panniers. But nothing yet, we fancy, has been designed for the carrying of the cycle tourist's luggage better than the pannier-bags made to fit on either side of the back wheel, and fastened to a rear carrier.

Another useful and handy little bag is a tool and map case, in strong proofed grey canvas, designed for attachment to cycle handle-bar.

They're needed in your home— A NEST OF TRAYS



WE show on this page a useful set of household trays, so designed that they fit together to form what is commonly known as a nest of trays.

There is one large tray which might be used for carrying a complete tea service from one room to another, or from the house to the garden, and two smaller trays which would serve for handing round.

A very suitable size for the larger tray is 20ins. by 14ins., while for the smaller pair of trays, two pieces 12½ins. by 9ins. would fit comfortably within the first piece.

It will be seen from these sizes that a sheet of ½in. thick plywood of the standard size of 30ins. by 24ins. will comfortably make all three trays with strips to spare for gluing on the underside if desired to stiffen them.

Wood, Corners and Handles

Beyond the necessary plywood all we need are some pieces of Hobbies No. 310 Tray Moulding and one dozen Tray Corners No. 6222.

If handles are thought necessary for the large tray, a pair of Hobbies No. 3 brass handles would be ideal, and these cost only 1/7 the pair.

Having the sheets of wood cut to size, the corners will be rounded off, and to do this properly it will be necessary to stand one of the metal tray

corners in place on the plywood and about ¼in. in from the square edges. Draw round the outer edge of this.

The fretsaw will do the cutting and the edges will be finally cleaned up with glasspaper. Fig. 1 shows the pieces ready for the edgings to be fixed.

Again lay a pair of the corners in place, and measure off from end to end of these. Then add to this measurement ¼in. or so, to allow for the moulding which goes into the metal corner.

Fixing the Edging

It will be found that two lengths of moulding 16ins. and two lengths 10ins. will suit the large tray, while two pieces 8½ins. and two pieces 5ins. will do for each of the smaller trays.

Glue and screw on each piece of the edge moulding to a line drawn on the plywood, as in Fig. 2 dotted lines. Then fit on the metal corners over the moulding, and fix them with small fret pins, holes for which are already bored in the metal.

The screws for the moulding should be counter-sunk and driven well in as in the circled diagram in Fig. 2.

If it is desired to have square-cornered trays, doing away altogether with the rounded metal corners, the mitres must be very neatly and accurately cut and the strips glued down before the screws are put in.

A Mitred Corner

The usual fixing for the corners of the moulding is by means of feathers, as shown in Fig. 3. A straight or sloping cut is first made with a tenon saw at the extreme tip or corner, and in this cut is driven a thin feather of hard wood, which is first dipped into glue.

This makes a very strong joint and is quite neat after the superfluous wood of the feather has been cleaned off. A section or plan of this joint is shown in the circle in Fig. 3.

All the trays may, if desired, be covered on the underside with baize.

For decoration, the most suitable would be by way of transfers. For the larger tray the Galleon transfer (No. 5295) as sold by Hobbies, Ltd., would be excellent, while for the two small trays, Galleon transfer (No. 5848) would look and fit well.

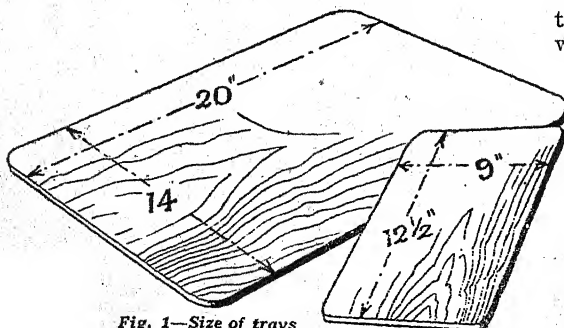


Fig. 1—Size of trays

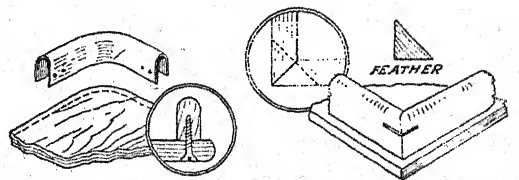


Fig. 2—A detail and section of the corner fitting

Fig. 3—How a slip of wood is added for strength

Make your garden attractive with CRAZY PATHS

WELL-MADE crazy paths add to the attractive appearance of any garden, and while stone slabs are usually used for path-making, concrete works out a great deal cheaper and once laid, is everlasting. Laying a path in crazy concrete is quite a simple matter, and it may be made to give the appearance of natural stone. It can also be tinted to the most delicate shades to tone with the colour scheme of the surrounding flower beds—an added advantage over real stone for path making.

Having decided where the path is to run, its width and shape, mark out the site with wooden pegs driven into the ground and then dig out the soil to a depth of four or five inches. Collect a quantity of broken bricks, stones, clinkers or any rubble, and with this fill up the site to within one inch off the ground level.

A Firm Foundation

Make the filling very firm and solid by ramming it down with a large piece of wood, for if this is not done, your finished path may crack badly the first time you push a wheel-barrow over it. Now level up the surface by spreading fine gravel or coarse sand over the rubble and work it down into the spaces. Again ram to make everything quite tight.

The site is now ready to receive the upper layer of concrete, but first of all it must be prepared with strips of wood so the slabs will assume all sorts of irregular shapes. The sides, of course, will be straight or curving, according to the formation you desire the path to take.

Side Strips

Cut some strips from $\frac{1}{2}$ in. board, making them about 1 in. in width, and all sorts of lengths. Place the longer lengths along the sides of the path and work the other pieces into all sorts of irregular shapes and sizes, as shown in the sketch herewith. The little strips can be kept in place and upright by wedging them into position with small pieces of stone.

Now the concrete mixture must be prepared and as already

mentioned, it may be like natural stone, tinted, or in ordinary concrete colour—a kind of neutral grey—not very pleasing when dry. You must decide on the colour at this stage, for the colouring element must be mixed in with the cement while it is dry.

Colouring Material

Here is a guide to some colours and the chemical compounds used to obtain them. Other shades may be had by mixing these primary colours and, of course, the more colouring compound used, the deeper the tint will be.

For red, mix 86 parts of cement with 14 parts of red oxide of iron; yellow, 88 parts cement to 12 parts yellow ochre; blue, 86 parts cement to 14 parts azure blue; green, 90 parts cement to 10 parts oxide of chromium. All these colouring compounds can be obtained very cheaply from the builder's merchant or the chemist in your locality.

Mixing the Concrete

Having carefully measured the correct amount of colour into the cement, mix it thoroughly by turning it over and over with a shovel and then to each part of coloured cement add four parts of clean sand. Again mix it all well up together. Now cast it up into a heap on a clean, hard surface, and after hollowing out the centre of the heap, pour in some water until the hole is nearly full.

Slowly and gradually work in the cement from the edges until it absorbs all the water and then turn the heap over and over until it is well wetted right through.

There must be no traces of dry cement showing, and if the mixture appears too dry for working, add a little more water from time to time as mixing proceeds. After well mixing the concrete should be quite wet, but fairly stiff, something like the mortar the bricklayer uses.

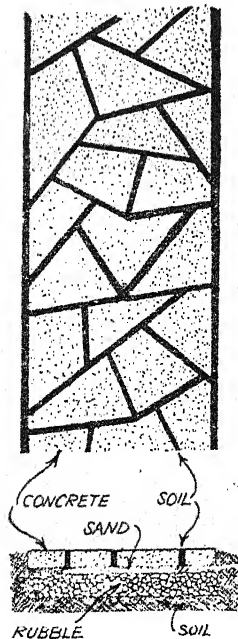
Laying the Path

Fill the concrete into a pail and carry it to the path, then with a trowel or small shovel, fill it into the spaces of the site, taking care not to let it run over the wooden strips. Have a piece of clean, smooth wood handy and as filling proceeds, ram the concrete well down.

Then, when level with the top of the strip, draw the piece of wood around the top edge to finally level and smooth the concrete surface. Continue in this way until the whole of path is laid, or lay a certain length on one day, let it harden and you can then use the same dividing strips of wood for the next length.

If you wish the slabs to have the appearance of natural stone, do not fill the spaces quite full, and

(Continued foot of next page)



Have you ever thought of making FANCY BEADS IN WOOD ?

BEADS have many uses, and from them, a number of things can be made up. Those of the plain wood variety can be delicately and tastefully hand-painted, and as such, they have some consequent value.

Beads of the common variety are fairly cheap to buy, but prices are increasing. The better class of bead, including the wood varieties mentioned, are not cheap to buy, even undecorated, and although the work of making them is delicate, this will not dismay the fretworker.

Square Beads

Various sizes can be made from square section stripwood. The sizes recommended are $\frac{1}{4}$ in., $\frac{3}{8}$ in. and $\frac{1}{2}$ in. with perhaps $\frac{3}{4}$ in. for large beads. A pair of spring dividers is excellent to set and use for quick marking off along the strip of wood. The beads are then cut off with the aid of a metre block and a small fine tenon saw.

The result will be a number of perfectly square beads which now have to be centrally drilled. Use a fine fretwork drill bit. The eye should be sufficiently accurate for this, but to ensure starting the drill right, a small indent can be made with an awl. It will not take long to make a number of beads up in this manner after a little practise, and if the right tools are used, they will require very little finishing off.

Other Shapes

Rectangular beads are made in exactly the same way, using stripwood. Sizes recommended are $\frac{1}{4}$ in. by $\frac{1}{4}$ in., $\frac{1}{4}$ in. by $\frac{3}{8}$ in. and $\frac{1}{4}$ in. by $\frac{1}{2}$ in. These beads will be of the flat type, or what is known as applique beads, and can be drilled through the section of the wood as shown, with either one or two drillings.

Round beads are very easy to make if round ball beading is used. This is obtainable from Hobbies Ltd. in $\frac{1}{4}$ in. and $\frac{3}{8}$ in. sizes, quite cheaply, and all that is necessary is to cut off the beads, using a fine saw. Drill from the flat faced cut surfaces, using a quick release vice or clamp for holding the work.

Cylindrical beads square dimensional, in varying lengths, can be cut from dowelling, using $\frac{1}{4}$ in., $\frac{3}{16}$ in., $\frac{1}{2}$ in., $\frac{3}{8}$ in. or $\frac{1}{2}$ in. for large beads. These can be centre or side drilled as shown. Square section stripwood can also be used for making long beads, as well as square ones.

Crazy Paths—(Continued from previous page)

when a number have been laid, sprinkle fine sand over the surface thickly, pressing it down so that it sticks to the wet concrete.

In this way your path will look like real sandstone, if you lightly brush away the loose sand when the concrete has set hard.

Leave the path alone for at least twenty-four hours and then gently pull away the dividing strips

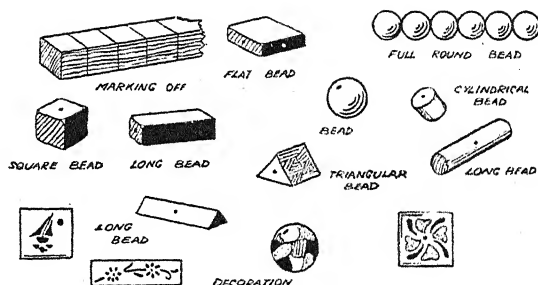
Triangular beads can be cut from triangular fillets, either square dimensional, or to varying lengths. Suitable fillets are $\frac{1}{4}$ in., $\frac{3}{8}$ in. and $\frac{1}{2}$ in. These are centre drilled as usual.

From these suggestions you have a good variety of beads of varying shapes and sizes, and with them, almost any bead decorative work can be carried out.

Bead Decoration

The best medium to use for quick and permanent decoration is Hobbies enamel. This is obtainable in small pots at 2½d. each, in many bright colours. A set of small sable brushes will also be required, and the best form of ornamentation is simple floral subjects carried out in a series of brush blobs.

Some ideas are shown to give the style of work which is desirable. Using enamels, no varnish is required. Beads may be decorated on the plain wood background or alternatively, the background



Here are some suggestions of completed work

may be enamelled first and decoration then added.

If the work is well carried out, it should be no difficult matter to make up really attractive articles such as necklets, bracelets, and other forms of personal adornment with your beads tastefully decorated and arranged in a series of shapes and sizes, with given colour schemes. Such work will have a definite hand-made value, and be of lasting use and interest.

Flat beads can be used for mat, and other forms of decoration. There are many uses indeed, but it is necessary first to collect together a good selection of the plain beads in as many shapes and sizes first, and to always add to it if you intend to take bead work seriously.

of wood. The slabs will then have spaces all around them and these are filled with soil.

Tiny creeping plants grow very quickly in these soil-filled spaces and clothe your path with a mass of green leaves and tiny flowers. The nurseryman will tell you which plants are best for such places, for some rock plants like being trodden on and grow much better with rough treatment.

You must have speed and streamline in MODERN SWIMMING

SWIMMING, like everything else, changes. The strokes of twenty years ago are old-fashioned to-day, just as those of today may be out-of-date tomorrow. This constant change is good, for it leads to new discoveries, and gives a wider range of methods from which the swimmer may take his choice.

What about your own swimming? Is it modern? Is it streamlined? If not, why not modernize it? You will have a most enjoyable summer's swimming if you set about overhauling your ability or, if you do not as yet swim, learning according to the newest rules.

Let us start with learning. Quick results is the main concern in these days—and so the seal-stroke is fast becoming the most popular method for learners. It can often be mastered almost at the first attempt, and it leads on naturally either to breast-stroke or front-crawl.

Seal Stroke Methods

You begin seal-stroke by standing breast-deep and working the arms in short circles—just like a breast-stroke learner. The arms drive apart at the front, each hand pressing outward, backward, and slightly downward. This continuous 18 inch circling movement of each hand supports the body and pulls it forward.

The legs can be tried whilst you cling to the side of the pool, lying flat along the surface. Simply thrash the legs up and down on the top of the water, letting them bend at the knees.

While one foot goes up into the air the other smashes down into the water. This leg action keeps the body at the surface, and also pushes you forward.

To get the full seal-stroke you simply push off from the pool side and set both pairs of limbs working at a comfortable speed. It is a sort of learner's breast-stroke for the arms and learner's crawl thrash for the legs. But it will get you going quickly.

New Type Breast Stroke

Perhaps you already swim, and want to modernize your breast-stroke. Very well, remember the streamlining idea and you will soon get that smooth speedy style which is so admired to-day. It is chiefly noticeable in the full-stretch glides between each complete set of movements.

Your arms make their sweep, and slide to the front again; your legs close in together, and remain straight—and then you glide fully extended like this until impetus begins to slacken. Stiffen the arms, narrow the shoulders, lower the head, keep legs rigidly together, point the feet—and you will cut through the water as cleanly as a racing skiff.

The old style of breast-stroke had the arms sweeping right round to the shoulder line, and the head always well above the surface.

A few years back the arm stroke was less than half as long, and with very strong downward slant, so that the head, which remained almost submerged most of the time, could be brought bobbing up to the top for breath.

The Butterfly Stroke

Just now something between the two is the fashion, with arms sweeping almost to the shoulder line, but with slight downward slant. The head is much steadier too, and does not dip so much, so that the forward travelling is smoother.

But a completely new type of breast-stroke is just evolving. Its present name is butterfly-stroke. In this the arms lift completely out of the water after their sharp downward drive, and fling forward above the surface to the extension in front of the head which allows them to drive down afresh.

The legs do an ordinary breast-stroke kick, but at the end of it, instead of staying straight and together, they bend at the knees and then do a single straightening downward beat, remaining together.

Butterfly-stroke may, or may not, last. It is tiring. But for short distances it certainly is fast and it has made possible a lot of record times.

The Modern Front-crawl

Front-crawl, of course, you must swim if you would be modern. And it certainly is a fine stroke. No other swimming method gets such big results with so little effort.

The streamlining tendency is more marked than ever in crawl. You must lie flat on the surface, like a speed boat, with your "prow," or head and chest, fairly high. You must remain steady too, with arms and legs disturbing the poise of the body no more than is absolutely unavoidable.

Let your arms work freely in the smooth sockets of the shoulders, without lifting the shoulders during the recovery actions. Each arm in turn swings forward limply, only just above the surface, then drives downward and backward through the water—hard and firm, until once more it is at the side of the body and ready for lifting into the air.

Keep the leg thrash fairly narrow, and do not spread the legs. The big toes should almost brush as they pass and repass. The feet, of course, must be pointed and turned inwards so the flat insteps can flail squarely against the water.

The old rolling from side to side which characterized early double-overarm strokes is completely gone from this newest crawl, so has the heavy

gasping for breath. Nowaday you breathe easily and deeply by gulping in air through the mouth each time the face turns up to its side, and exhaling completely below water, letting the stream of air pass out through the nose.

The leg action tends to become faster—four, five, and even six beats to each arm-pull.

The Back-crawl

Most of the points applying to front-crawl apply equally to back-crawl—which is really the same stroke the other way up, made simpler because the face is above water all the time and so there is no difficulty about breathing. Flat poise, and streamlining of shoulders and limbs, are the distinctive marks of the latest mode of this stroke.

Get the speed-boat idea in the sloping stretch of the body. By lifting the head so that you can look towards the feet, and allowing the body to sink a little at the hips, you will get the best planing effect. The shoulders then will slope up from the surface and glide along over the water with greatest

ease. Do not roll the body, but keep it flat on its course. The feet must not waste time and power breaking right out of the water. It is enough that simply the toes show at the surface at each upward drive.

Which Suits You?

There is a back-crawl argument in these days as to whether the arms should be straight or bent during recoveries. There is something in favour of each—the straight arm swing over through the air is slightly faster; but the bent-arm swing is more restful. The final deciding factor is—which gives best speed? And that you must settle for yourself. Try both ways and see which suits you best.

Jerky progress, quick tiring muscles, ungainly angular movements—they were the marks of the old swimming. Speed, ease, and grace have come with the newest styles, and you can very soon prove for yourself, that this modern swimming is certainly best.

Don't be "stumped" over this CRICKET CROSSWORD PUZZLE!



CRICKET is in full swing, so here's a crossword puzzle on the subject. As usual, it is a simple square, with plenty of abbreviations and no alternatives. In spite of this, however, you might be "stumped" over some of the clues, particularly with Clue 3 Down.

"Does in the second year," it runs. You will be genuinely surprised at the answer, so we won't spoil the fun by "blowing the gaff" here. No prizes, of course, are offered for correct solutions. The completed square will appear next week for checking purposes only. Meanwhile, test your knowledge about the great game of Cricket and confirm some of those little doubtful points at the back of your mind.

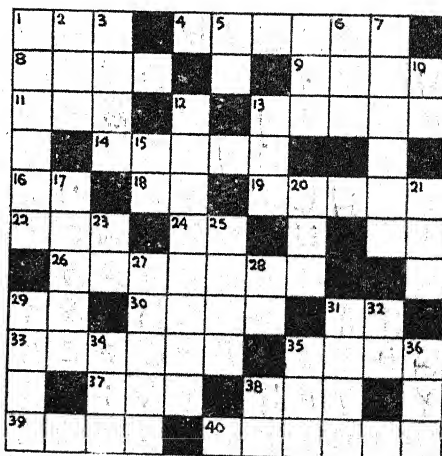
CLUES DOWN

1. The man who delivers the ball.
2. An intoxicating drink.
3. Does in the second year.
5. First two letters of "innings".
6. A batsman doesn't like being bowled this.
7. What the batsman defends.
10. New Hampshire (abbr.)
12. The limit of the field.
13. A leguminous plant, the seeds of which are used for food.
15. Cricket Club (abbr.)
17. English player who, in 1925, beat W. G. Grace's record of 126 centuries.
20. This often gets in a player's eyes.
21. Half a dozen in number.
23. British (abbr.)
25. To leave out.
27. Overhead.
28. First two letters of "Allen".
29. Those are strapped to the legs.
31. A—boy!
32. Short for "mother."
34. Short for "Sidney."
35. Stamped Addressed Envelope (abbr.)
36. A run scored when the ball

37. An evergreen climbing plant.
38. Batters delight in bringing off this sort of trick.
39. There are eleven men on each.

CLUES ACROSS

1. Cricketers like to go out to do this.
4. The timber used mainly in making cricket bats.
8. Umpires call this out at the end of each over.
9. To get one's chances.
11. A funny fellow.
13. The space between the wickets.
14. Every batsman tries to make a high one.
16. "He" reversed.
18. "Cut" curtailed.
19. This term originated in 1882 when Australia first beat England.
22. A fielder can often do this to a batsman's innings.
24. In the negative.
26. Surname of the Captain of the Australian team.
29. Primitive Baptists (abbr.)
30. Much depends on it resting safely on the stumps.
31. Albert Medal (abbr.)
33. To arrange into different classes.
35. To pierce the ground with a stump.
40. The line on the ground marking the position of bowler and batsman at each wicket.



Solution Next Week.

Another Crossword the week after

Every fretsaw user should read these FRETWORK NOTES

WE are frequently hearing from readers who have a desire to know the most satisfactory way of disposing of articles which they are making, but unfortunately many of them want to make a profit out of fretwork a little too quickly.

When we have seen specimens of what they can do, we have been forced to admit and to put the point to them, that very few people are likely to buy. This is usually because the standard of cutting and finish is not sufficiently good.

After all, you cannot expect other people to spend money in purchasing an article just because you happen to have made it. Very few people are prepared to buy what they do not want, and certainly not if it is not appealing to the eye and good value for the price offered.

What to Offer

The principal point, therefore, is to see that the very best cutting and finish has been introduced. You may be satisfied with the article yourself, but it is best to get an independent judge to give you a really helpful criticism on the subject in order to get an unbiased opinion.

First of all the whole thing must make an appeal to the prospective purchaser.

That is, its finish and the actual subject itself must be something either out of the ordinary or something practical, or something which he may be proud to possess. If the article has all three virtues, so much the better.

Good Work Only

Having caught the buyer's eye, as it were, he should be able to examine the particular article in question without being "put off" his purchase by immature or badly executed work. Remember this during the whole time you are cutting and do your best on every occasion to get something a little better than you have done previously.

The actual cutting and completion are matters which have been dealt with before in these pages, and are covered very satisfactorily in that useful handbook "The Art of Fretwork."

So far as selling is concerned, therefore, we must assume that the worker has an interesting article to offer, nicely finished off and of a practical everyday useful nature.

The Price to Charge

Then comes the question of price, and in a general way it is much more easy to sell a number of small articles cheaply rather than one large and expensive article occasionally. Moreover, it is not much use just having one solitary piece of work—a small tray—and trying to sell that.

A better plan is to have a number and a variety of articles so the customer or prospective customer

may be able to choose from a fairly wide range. This particularly applies if you are attempting to sell to a shopkeeper.

No traveller would call on him with just one sample because the shopkeeper would expect to see quite a number and then, perhaps, purchase a few. The articles themselves range from useful to pretty, and at prices from as low as 3d. up to four or five shillings.

There are, you may think, very few which can be completed for the first-mentioned figure, but if you

Hints on Selling Work Packing and Addressing Helpful Sidelines

get down to a mass production type of work you will be surprised how many you can turn out. Little calendars, statuette photograph figures, inkstands from the single page designs we have given here, small milk indicators, etc., are some of the types to begin upon.

They are all made from odd pieces of wood which might probably otherwise be thrown away, and so cost very little to make. At the other end of the scale you have a modern type of clock or the novel cigarette delivery box or the tie press, and then small mechanical or stationary models which are likely to appeal.

Where to Offer

So far as the actual sales are concerned, too, you can often dispose of a number of articles through local charitable efforts such as Sales of Work, Exhibitions or Bazaars.

You may not know the actual organiser, but a letter to the address usually to be found on a display bill will find its way to the right source, and if you enclose a stamped addressed envelope, a reply will undoubtedly come through.

Write and then Call

You can then make the proposition, call and show a few of the things you have made which might be of interest, you suggest, on one of the stands at the Exhibition.

They can be offered at a price which would sell them readily, but which would allow you a small commission on the sales. You can agree, too—in the arrangements afterwards negotiated—to take back any or all of the unsold articles.

If, too, you are entering any models or pieces of work for exhibition, you should always enclose stamps for the return postage, and it is best also to

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or L.I.I./6 are counted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except second-hand goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

MAKING A CLOCK? We supply movements from 3/9. Hobbies Ltd., Dereham.

LONELY? Then write Secy., U.C.C., 16BB. Cambridge St., London, S.W.1. Genuine. Estab'd. 1905.

DOLL'S HOUSE Papers, Fittings, Bathroom set, fireside set, door knocker, etc. Write for list.—Hobbies Ltd., Dereham.

50 STAMPS FREE. Approvals 2d. stamp.—Paul, 43 Bramley Road, London, W.10.

BOYS! Learn the 'why' and 'how' of electricity with a Hobbies Electrical Outfit. Fun, fascination, thrills galore. Prices from 3/—Hobbies Ltd., Dereham.

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MAKE YOUR OWN UKULELE, Mandolin, Guitar, etc. from Hobbies designs and materials. You'll be surprised how easy and cheap it is!—Hobbies Ltd., Dereham.

GALLEONS. Send for our list of ships, aeroplanes and other models which can be made from Hobbies designs and materials.—Hobbies Ltd., Dereham.

BALSA WOOD for building model aeroplanes. Lowest prices for sound quality. Send for list.—Hobbies Ltd., Dereham.

LOW-WING MONOPLANE. Kit of parts for building a 3ft. 10in. wing span model with 14in. airscrew. It's a beauty! 19/6; post 6d.—Hobbies Ltd., Dereham.

100 STAMPS, all different, sent genuine applicants for approvals. Postage 2d.—Errington Macquire (O), 51 Atkins Road, London, S.W. 12.

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LEARN STAMP DEALING AND COLLECTING for pleasure and profit. Postal Course and complete outfit. Prospectus free.—Philatelist (Box 15), Nelson Road, Leigh-on-Sea, Essex.

BUILDING A MODEL POWER BOAT? We supply a steam engine unit, complete with propeller and shaft for only 12/6 post 6d. Suitable for boats up to 30ins. long.—Hobbies Ltd., Dereham.

LEARN PRINTING as a paying hobby; stamp for particulars.—"Wharfedale," Scagglethorpe, Malton, Yorks.

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THE WORLD'S MOST POPULAR FRETWORK SET—Hobbies A1, price 12/6; post 9d. Other sets from 1/6 to 25/-. Send for list.—Hobbies Ltd., Dereham.

Get Yourself a Bench Vice

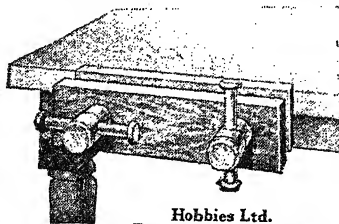
One of the handiest tools yet devised. Nicely made in selected beech, with hardwood screws. A first-class job throughout. Get one NOW!—you'll marvel how you ever did without it.

Two Sizes

12in. - 2/9

15in. - 3/3

Postage 6d.



Hobbies Ltd.
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Turn Your Table into a Bench

Fixed in a couple of minutes to the kitchen table. Taken off again just as easily when required. An invaluable tool to any worker in wood.

fill in a complete label which can be put on to the package.

The name and address which you write at the top of your own letter may be perfectly clear to you, but it is surprising how it can appear something quite different—and often unreadable altogether—to a perfect stranger.

If, however, you address the label yourself, you are more likely to make it plain enough for the postman to read.

Care in Packing

Remember, too, to pack your work carefully. We find so often in competitions that the entries are just put into a piece of brown paper tied up with string in a very haphazard manner, and



Two simple display boards cut in different styles

posted off. When they arrive, naturally, they are damaged, and some very delicate work is often completely ruined.

A little attention should be paid to this point in posting work off anywhere. Get some odd shavings or some of the paper packing from chocolate boxes, etc. to pad the actual article up. It should not shake about in its container, but be packed out to prevent it rattling or moving at all.

A piece of card or waste wood on two sides will also help to keep it more secure, and a couple of pieces of brown paper should be put round finally.

Never be satisfied, either, with just one address on the parcel. It may become obliterated or smudged so the post office people cannot read it. Write a duplicate of the address somewhere else on the parcel so reference to this can be made and save delay.

Cut Display Notices

In connection with this mention of profitable use of the fretsaw, it may be worth while to draw readers' attention to the possibility of a side-line which might be overlooked. That is the matter of making suitable short notices for people in your district.

There are a number of occasions and you have only to look round to find them when a suitable little piece of wording would be acceptable and paid for.

A house and its garden which is thrown open to the public for light meals, requires the notice "Teas," "Cigarettes," "Minerals," etc., and the

proprietors would often be pleased to purchase a nicely worded display in wood, because in the ordinary case they would not know where to obtain such a notice nor pay the much higher charge of a professional tradesman.

The word "Notices" itself can often be used for clubs, churches or charitable associations, and, of course, you get wording like "Members Only," or "Open on Sunday"—all of which should find a ready market if you look round and think of the opportunities.

These notices can be cut out quite neatly in wood by means of utilising the letters provided on design sheets Nos. 724 and 2152.

Methods of Cutting

You have two opportunities in the method of cutting. One is to cut the lettering out of a single board, and the other is to cut the letters out separately and glue them on a background. Both styles are shown here.

The difficulty is usually to get the exact lettering, but the designs mentioned provide these, or, of course, you may be able to get a printer to let you have a complete alphabet in two or three sizes.

Linking the Letters

Do not get the letters too large, but on the other hand get them nicely readable at a distance. If you are cutting them out from the board, remember that some will have to be linked up in parts after the fashion of a stencil, or you will have the middles fall right out.

One or two instances are shown here which will make it quite easy for you to execute any of the other letters of a similar nature. By leaving a narrow link of wood to hold the central piece, you will not reduce its legibility.

Put on Backing

Of course, even when you cut the lettering from the single board like this you can make it more striking by gluing on the back of it a piece of material.

Silver paper looks well, but wants covering over to make it stronger and weatherproof. Imitation wood paper or leatherette paper is also helpful.



Remember to leave link pieces in certain letters

You can paint the whole thing and strengthen it up by adding a different colour to the edges of the wood of the letters themselves. If you are cutting the letters out independently, too, glue on to a wood backboard then they can be painted up in flat paint or enamel a distinctive colour from that used in the backboard itself.

There are, indeed, many ways in which this lettering can be incorporated, and if readers are interested, we can give further particulars of a helpful character.

WOODWORKERS

Not only does the amateur carpenter and fretworker need plain wood, but many accessories in moulding, ornaments, turned legs, and so on. Hobbies Ltd. can supply their needs in reliable goods, well finished and reasonable in price. These are a few lines; a fully illustrated list is free on request.



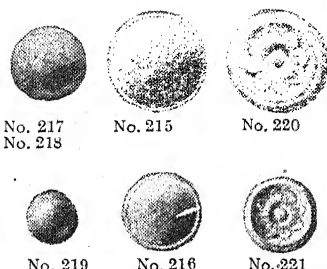
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Makes the construction of boxes, cabinets and tables simple. A groove cut for the side boards. All you have to do is glue the parts in place. No joints to worry about. In oak and hazel pine. Three sizes of groove. Make a trial box now.

| | Hazel Pine. | Oak. |
|-----------------------------|-------------|---------------|
| No. 45. with 3/16in. GROOVE | 1 1/2d. | 2d. per foot. |
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| No. 47. " 3/8in. " | 2 1/2d. | 3 1/2d. " " |

WOOD ORNAMENTS

These handsome wooden ornaments are plain but dignified and, if added judiciously to cabinets, furniture, boxes, window seats, etc., will add to each of distinction. They are supplied in just the sizes and styles to be required by the amateur craftsman and can easily be put on with a touch of glue. All are made in oak.



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| | |
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| No. 217. 1 1/2ins. | 9d. per dozen. |
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| No. 220. 2ins. | 3d. each. |
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BUTTON, with Raised Rim

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| No. 215. 2ins. | Price 1 1/2d. each. |
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Square Rosette

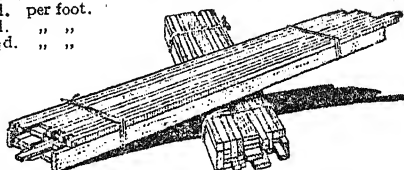
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| No. 222. 1 1/2ins. | 2d. each. |
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| 2/9 | 5/3 |
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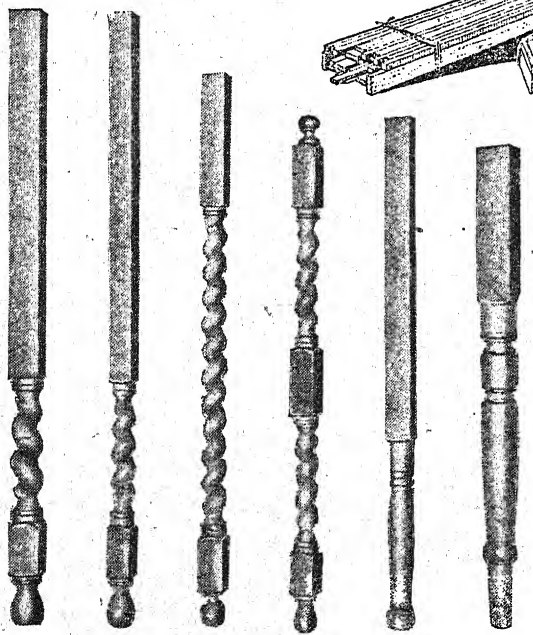


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TURNUED LEGS FOR THE AMATEUR

The introduction of these legs will be very popular amongst many woodworkers. By their use the handyman can build really large and useful pieces of furniture such as sideboards, bureaux, gramophones, tea wagons, etc. The legs are beautifully turned and cut from good quality wood. They only need a rubbing of glasspaper before being ready for use. We have carefully studied the needs of the amateur worker and here offer a range of legs which should meet every requirement. Moreover, by careful buying, we have been able to keep the price down, and even if you are able to buy cheaper, you can be sure that neither the quality nor the finish is so good as in those we offer.

| |
|--|
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DEREHAM, NORFOLK

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All Editorial matter should be sent to The Editor, Hobbies Weekly, Dereham, Norfolk. If enclosed with orders or other matter for Hobbies Ltd., it should be written on a separate sheet of paper. Any matter requiring an answer must have a stamped addressed envelope enclosed.

DESIGN SHEETS.

The presentation Design Sheet is given only with current copies of Hobbies Weekly, and not with back numbers. The designs, however, can be obtained separately, from Hobbies Ltd., price 5d., post 3d., or 10d. in the case of double size sheets.

ADVERTISEMENTS.

All orders and letters respecting advertisements should be addressed either to the Advertisement Manager, Hobbies Weekly, Dereham, Norfolk, or to 30, 32, Ludgate Hill, London, E.C.4.

INDEXES AND BINDING CASES.

An Index for any volume is obtainable for 4d. post free, and Binding Cases to take a complete set of 26 issues (making the volume) are supplied for 1/6, or sent post free for 1/8. The Cases are in red linen with gold blocked name on the front. The Azabook Binder, to hold 24 copies which you can fix in yourself is 2/3 (3/6 post free) including two dozen fastening staples.

BACK COPIES.

Back copies are obtainable from the Editorial address given above or from the Publisher, price 2d. a copy, plus postage.

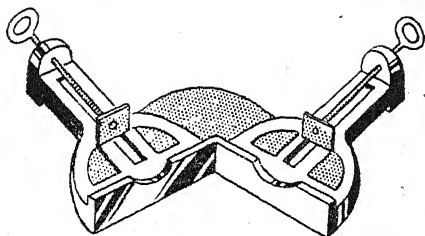
CONTRIBUTIONS.

The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

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The No. 1 $\frac{1}{2}$ Corner Cramp takes moulding up to 3ins. wide. It is accurately made and comes in a dull nickel finish.

Price 3/9. Post 6d.

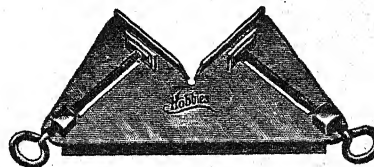
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Ask for No. 6.

Not to be confused with cheap, badly made planes. This one has 1 $\frac{1}{2}$ in. blade and is a guaranteed tool.

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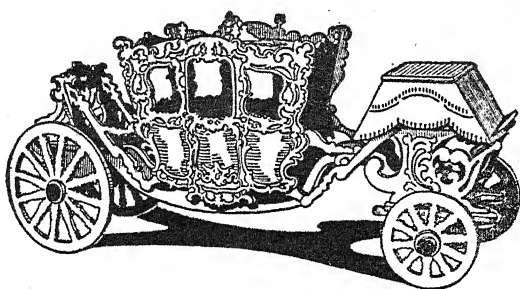


2/9
Post 6d.

REPLY COUPON

One of these small Coupons and a stamp for 1d. must be attached to your letter to the Editor, if you are enquiring about anything which demands an answer. Cut the Coupon out and put it in with your letter which should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk.

MODELS to make with a fretsaw

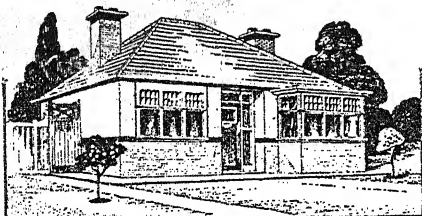
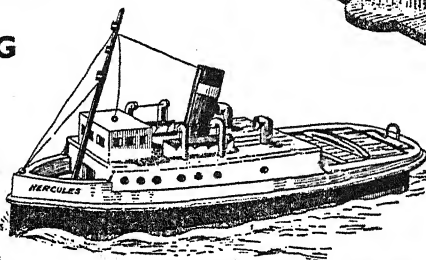


LORD MAYOR'S COACH

Design No. 1985/6. Price 8d. Size 20ins. long. A parcel of nicely-grained Whitewood with four turned wood hubs for wheels, round rod for axles, and deal for base 6/3, postage 9d. Two Glasses (5825) 3d., postage 2d. A complete parcel of design, wood and glasses, 7/11, post free.

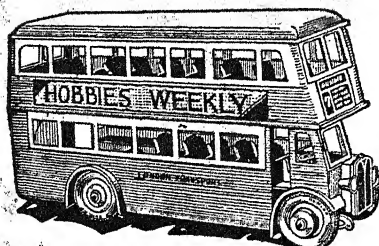
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Design No. 2129. Price 4d. 15ins. long. Driven by flashlamp battery. A parcel of Satin Walnut and Deal, with dowel for mast and funnel 1/8, postage 7d. A suitable motor 3/-, propeller and shaft 1/9, copper strip and pieces of brass with brass wire 6d. Postage on fittings 4d.



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Design No. 2093. Price 4d. Size 2ft. wide by 1ft. 8ins. deep. Plywood, Whitewood, moulding, beading and round rod 12/6, carriage forward. Eight glasses 1/6, postage 6d. A parcel of design, wood and glasses, 14/10, carriage paid.

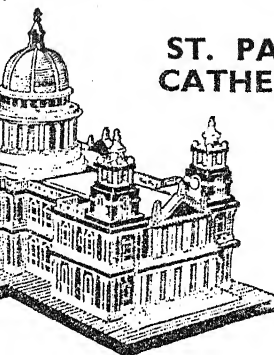


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Design No. 192 Special. Price 9d. 19ins. long. Satin Walnut with four turned wood hubs and motor lamps, 7/-, postage 1/- Six rubber tyres, 34 glasses, wire, etc. 3/6, postage 6d.

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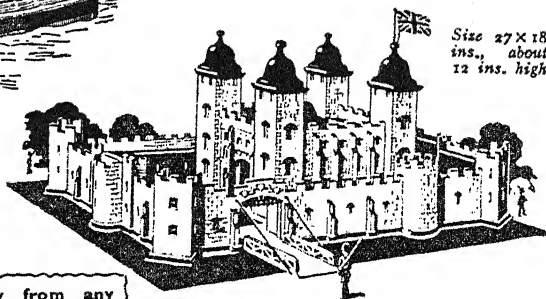
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ST. PAUL'S CATHEDRAL

Design No. 187. Special, Price 9d. Size 19ins. long by 11ins. wide. A parcel of Mahogany and Whitewood, with Satin Walnut strips, dowelling, etc., 8/-, postage 8d.

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Size 27 x 18 ins., about 12 ins. high

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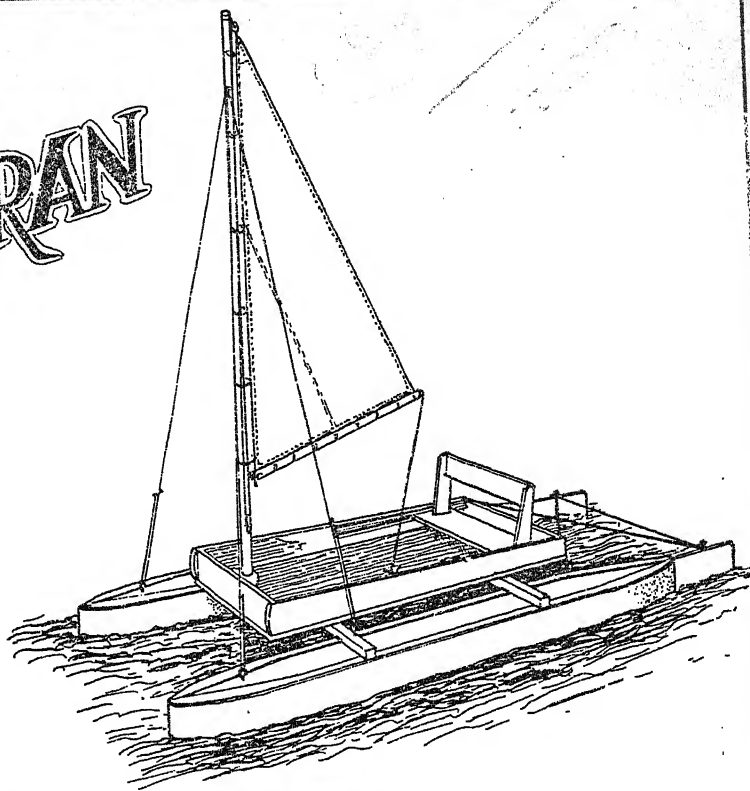


Hobbies

WEEKLY

Make this
CATAMARAN

ALSO FREE
DESIGNS FOR
**DOLL'S
KITCHEN
MODELS**

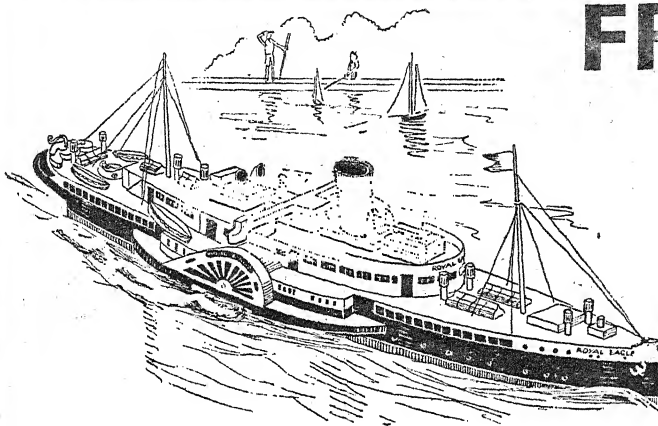


August 6th. 1938

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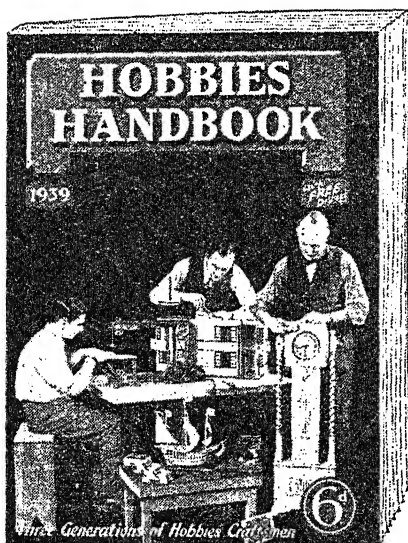
Vol. 86. No. 2233

**THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL**



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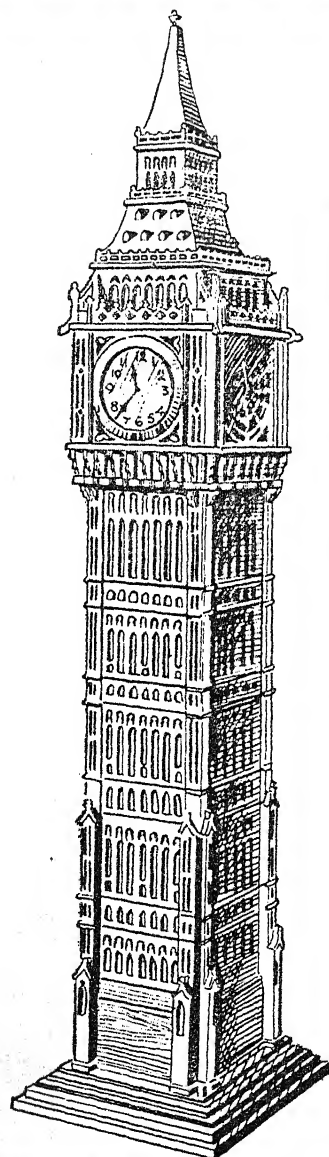
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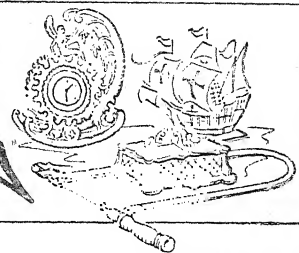
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Hobbies

WEEKLY



August 6th. 1938

Vol. 86. No. 2233

I HAVE received a number of requests from readers who have visited the Empire Exhibition at Glasgow, if we cannot have some souvenir in wood to make. So I have had a small Wall Plaque designed and hope to be able to publish it within a week or two. It will serve as a pleasing reminder of this mammoth Exhibition, the size of which has to be seen to be believed.

WHEN you remember nearly 80,000 people stroll round its grounds and pavilions in comfort daily, you can realize something of its magnitude. But of that, more later, when the design is published. In the meantime have your H.W. delivered regularly to make sure not to miss a single copy.

DURING the summer months I have been having fewer articles on Electrical matters, and increasing our outdoor pastimes. Soon, however, there will be a return to the regular electrical articles, and in this respect I shall be glad to hear of any particular instrument, or apparatus, or experiment you would like introduced. I have warned the Electrical Expert to be getting along with some bright ideas and I hope to give you some real novelties, as well as practical instruction. At the same time I want suggestions from you as to what you would like incorporated in the Electrical series.

AS an extra incentive for you to give some thought to the matter, I shall send a small prize to anyone who makes a suggestion which I can carry out later on. Come on, then, put on your thinking caps or let me know what electrical problems you have. A short note is sufficient, providing you make it clear what you want.

DO you think it was ignorance or a touch of wit that I received a note the other day addressed to the "Territorial" Dept.? Really, of course, it was intended for the "Editorial" Dept., but I

have an inkling that somebody was for pulling my leg! I wonder?

IT was very nice to receive a cutting from J. A. Gresty of Market Drayton, containing much interesting detail about the old sailing ship the "Cutty Sark". We have a special interest, of course, because our model has been made up by keen readers all over the world. The famous tea clipper is now resting on the Thames at Greenwich, after an adventurous and oft-times stormy life.

IT is said of her that in spite of regular journeys to China and Australia in all weathers, she never sprang a leak. It sounds quaint, but in 1889 she had a race against a steamer and reached Sydney 4 hours ahead. Her extra speed was, of course, a great asset in those days, because the first home from China with the new season's tea could always make an extra profit. A good average, then from England to China, was about 100 days—over three months. Compare that with the speed of today's mail steamers—to say nothing of the improved comfort!

ALLOW me to add that I have had the great pleasure of using a Hobbies Handframe, etc. for the past 25 years. That is, of course, when I have had the precious time to give to the hobby. I am sorry to say I cannot find sufficient time, owing to my work, to spend on the world's greatest Hobby as I would wish. That's what T.R.B. of Eastbourne thinks, and says, about

it and I am sure there must be thousands who agree with him. What?

CONTENTS

| | |
|--|-----|
| Fun and Puzzle Page | 434 |
| Doll's Kitchen Set | 435 |
| Hobbies League Correspondence Club | 436 |
| Making a Catamaran | 437 |
| Photograph Competition Winners | 439 |
| Scout Notes | 440 |
| Electrical Pole-Finding Devices | 441 |
| Doll's Chair and Table Patterns | 444 |
| Garden Frame and Tool Shed | 447 |
| Model Galleon Stands | 449 |
| Gardening in August | 450 |
| Hiking at Night | 451 |
| Preparing Wood Surface | 452 |
| Sport Silhouettes in Wood | 453 |
| French Celebrities on Stamps | 455 |

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

THIS week sees the publication of the new Hobbies Handbook for 1939, and an interesting announcement regarding it is given on the facing page. The book is quite a new edition with interesting articles on things to make as well as two large free design charts and a Calendar cut-out picture in colour.

The Editor



FUN AND PUZZLE



Why would a sparrow be angry if you called him a pheasant?
You would be making game of him.

Why did the hen run?
Because it saw the fox trot.

What game is played by a ship?
Pitch and toss.

Why is a weary man like a motor wheel?
Because he is tired (tyred).

WHY NOT?

A man went away and asked his secretary at the office to forward business correspondence. She wrote saying he had the key of the letter box. He wrote enclosing the key but still received no correspondence. It's a tricky little problem you should be able to solve. If not turn to column 3 for the solution.

A FIXTURE

Dolly was ailing, so mother had taken her to see the doctor.

"Put your tongue out, my dear," said he.

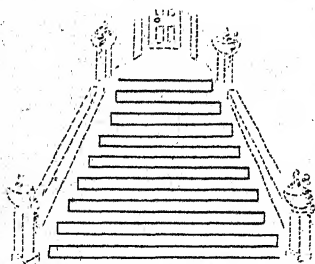
A minute pink tip just showed itself.

"That won't do," said the doctor heartily. "Put it right out."

"I can't," replied Dolly. "It's—its joined at the back."

SEE THESE STEPS?

Can you believe your eyes? This series of steps is not really that at all, but is made up of one continuous line from top to bottom. Now look more carefully and you will see what we mean.



Why is an egg like a drum?
Because both can be beaten.

Can the sardine box?
No, but the tomato can.

When is a man a reptile?
When he's a bookworm.

What is it impossible to buy?
A sheet for the bed of the river.

MORE HOWLERS

Septuagenarian—a person born in September.

Temperament—one who promises never to drink again.

As the arrow struck his eye, King Harold shouted "A hearse, a hearse, my Kingdom for a hearse."

Extradition—a newspaper term for special paper.

Cataclysm—what you have to learn in Sunday School.

An indenture is a set of false teeth.

Plato is the name of the dog in Micky Mouse films.

NO NUMBER PLATE.

"Hi! What's the idea—you've got no number plate?"

"Oh, that's quite all right. I can remember it."

Solution to Last Week's CRICKET X-WORD

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| B | A | T | | W | I | L | L | O | W |
| O | V | E | R | N | | R | U | I | N |
| W | A | G | | B | | P | I | T | C |
| L | | S | C | O | R | E | | K | |
| E | H | | C | U | | A | S | H | E |
| R | O | B | | N | O | | U | T | I |
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| P | B | | B | A | I | L | | A | M |
| A | S | S | O | R | T | | S | T | A |
| D | | I | V | | Y | | H | A | T |
| S | I | D | E | | C | R | E | A | S |

When is a theatrical manager like an astronomer?

When he discovers a new star.

Why are sentries like night and day?

Because the one comes as the other comes.

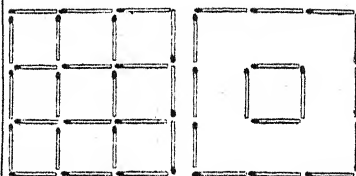
NATURAL.

Glasgow is laughing at this topical story. Bellahouston is, of course, the home of the Empire Exhibition, and Maryhill are two of its suburbs.

At the station booking office two women and a man were standing. The first woman said "Maryhill single." The second woman "Bellahouston single." The man said "Pat Murphy, married."

A MATCH TRICK.

Take twenty-four matches and form them into a square of nine smaller squares so that there are three rows of three. You are required to take away eight matches so that two squares only remain. The puzzle is tricky unless you know the answer. The drawings show you both. Try it on a friend.



A TONGUE TWISTER

Try and say this quickly: I guarantee this can-opener can open any can a can-opener can open, and if this can-opener can't open any can a can-opener can open, I give you this can-opener free.

STILL RUNNING

The teacher had taught his class that the Equator was an imaginary line running round the middle of the earth.

He was surprised to hear a few days later that one of the "dangers" of the tropics was the Equator.

"What makes you say that, Willie?" he asked.

"You said it was a menagerie lion, an' if it's running all round the middle of the earth it must be dangerous, 'cos it's not caged up."

What is always behind time?

The back of a clock.

Why is a fish like a shopkeeper?

Because it has scales.

What will make pies inquisitive?

S will make spies of them.

When is a fowl's neck like a bell?

When it's (w) rung for dinner.

SOLUTION.

Here is the reason for the non-arrival of the correspondence.

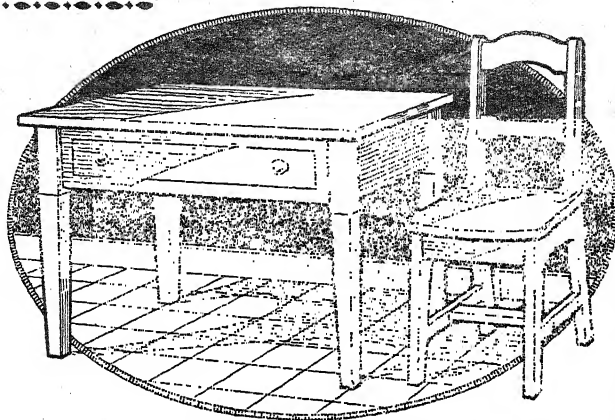
The letter was naturally put by the postman into the locked letter box. It could have been avoided by sending the key in a registered letter, which is delivered to some person in order that a signature can be obtained of its receipt.

Patterns are provided for this DOLL'S KITCHEN SET

THE patterns in the centre pages of this week's issue provide the making of another of those interesting units in the series of doll's house kitchen furniture which we have published recently.

Here we have a kitchen table and one chair, but, of course, we can add to the chairs as much as we like by duplicating the pattern provided.

All these models are to scale in proportion to each other so that gradually we shall have built up a complete model kitchen and finally provided for it a stand and background to make the whole assembly complete. All the parts are straightforward to cut and very little work is required.



Suitable Finish

When finished the models are painted or stained according to the full size articles. In the case of the table this can be left with the wood in its natural state or the legs and rails stained dark or just varnished.

The chair, too, can be stained and varnished, but the table top itself should be left in its natural state, because later on no doubt the happy owner will want to cut table cloths to cover it or to fit up an American cloth as a permanent addition.

If you get the parcel of wood mentioned here you will find all the boards of the correct size and thickness for the various parts required, and this saves a good deal of cutting out.

Indeed, as several of the pieces are plain rectangles two of the sides of the patterns can be pasted down in line with the edge of the wood and so save the cutting. In addition it ensures a perfectly straight edge.

Complete Patterns

The patterns are shown full size with the exception of the floor, and this has had to be broken to get it on the page. All you need do, however, is mark off a rectangle on a piece of $\frac{1}{4}$ in. wood $4\frac{1}{2}$ ins. long and $2\frac{1}{2}$ ins. wide.

Of course, the same applies to the other rectangular patterns where it is a simple matter to transfer their size direct to the wood without actually pasting the pattern on to it. Lay the paper on the wood carefully, then prick a small hole in each corner of the part. Take the paper away and link the holes up with a ruler and you have the size and shape required.

MATERIAL SUPPLIED

Parcel of wood.—For making this design we supply a parcel of selected Beech including two (No. 80) Knobs for 1/6 or sent post free 2/-.

Full size patterns on pages 444 and 445

The construction should be straightforward, but it is best to notice the various parts which join each other. These are lettered on the patterns, but this lettering will not be available after the pieces have been cleaned up.

Lettered Parts

A good plan, however, is to draw the letter on the back of the wood lightly in pencil so you still have a reference when the paper is cleaned off.

On the other hand, after a little study of the patterns and the drawing of the finished article, there should not be much need for letters at all. Take out the parts and test them together after cleaning up, as you go along. You may decide to cut the table or the chair first—it is immaterial which.

The Table

The table is straightforward with a plain top to which are added four rails, four legs and the drawers. First get the legs out in $\frac{1}{4}$ in. wood. These taper from a dotted line shown across the pattern, and we must also taper down the other two sides to correspond with it.

Now get out the front and back rails. They are shown in one pattern but in the case of the front the table drawer is cut from the same piece. For the back you have a plain outline $4\frac{1}{2}$ ins. by $1\frac{3}{4}$ ins.

The front is a similar sized piece, but the pattern shown should be pasted down so you can cut out a centre panel. Put a tiny drill hole in one corner, and use a saw to go round between the two lines shown. This part which comes out is the drawer front to be made up later.

To complete the table, get out the two end rails and put all four of them between the legs. Notice that each pair is exactly the same size or it will throw out the legs of the framework.

The legs are set inwards about $\frac{1}{4}$ in. from the edge of the top then the four rails glued between them. Note, as shown by the dotted lines on the table top pattern, that these rails are not set in line with the actual legs but slightly back from their front face.

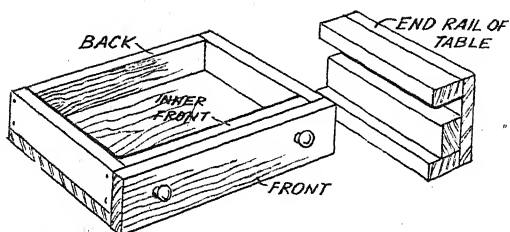
Get these rails glued firmly between the legs and also to the underside of the table top.

One of the points to be particularly careful of is to see the distance between the rails is the same in order to allow the drawer to run in and out easily.

The Drawer

The construction of the drawer itself is shown in the detail herewith. Get out the floor, back, two ends and the inner front. The four side pieces forming the upright frame are glued on to the floor then the front cut from the rail is glued on.

This covers the join of the front and floor and fills up the opening in the table itself. In making



up the drawer, see it will pass through the opening in the front rail and rub the edges down lightly with glasspaper to make this more comfortable.

The runners on which the drawer slides are made up by two pieces of wood. One is a guide and one is a runner and they are glued together as shown in the drawing. Each is a similar piece of wood, but one is cut from $\frac{3}{4}$ in. and one from $\frac{1}{2}$ in. They are glued inside the rails of the table just far enough apart to allow the drawer to slide along the floor piece.

The front of the drawer is fitted with two of the tiny knobs (No. 80) which are sunk a little way into the hole made with a drill point or bradawl and there glued in place.

The Chair

The chair is built on the two side frames, the seat fitting into the little slot joint at A, and the other cross rails being glued between. Notice which are plain cross rails and which are shaped as well as their position between the sides.

Here again all rails must be exactly the same length or you will not get a good fit for the completed article. The two flat ones B form the supports back and front under the seat. They are not put flush with the front edge of the sides, but set back nearly $\frac{1}{2}$ in.

The cross rail C is the flat one fitting between the bottom rail of the sides. These lettered D and E are the fancy rails of the back. The top edge of E should be rounded off to make it more shapely and realistic, and is then glued between the sides a little way inwards from the top and front. The rail D comes $\frac{3}{4}$ in. below that.

Constructional Methods

The best method of construction is to lay one of the sides flat on the bench then glue the rails upright on it in their proper position. Then get the other side and having glued the edge of the rails put it in place.

Let the whole framework set, then glue the edges where the seat will come and slide that piece into place into the joints at A. You must be careful to test the distance between the sides and the slot joints in the chair seat.

If these are not the same you will either force the sides apart or break off the small projecting pieces which should fit in place.

After construction and the glue is all set, give the whole thing a final rubbing with glasspaper then complete by means of stain and varnish. Take care if you are varnishing the front of the table, not to apply it to the drawer so it sticks.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

| NAME | ADDRESS | WANTS FRIENDS | INTERESTS, Etc. |
|-----------------------|--|--------------------------------------|---|
| Master E. Bowman. | Bleach Green, Witton Gilbert, Co. Durham. | Brit. Colonies. | Stamps, Fretwork, Woodwork and Engineering. |
| Mohamed Kamel Elmogy. | 8 Luvy St., Qobeh Gardens, Cairo, Egypt. | England. | Anything. |
| V. Ruthensamy. | c/o 162 Forrest Rd., Overport, Durban, S. Africa. | England, Toronto, Mozambique, Egypt. | Fretwork, Cig. Cards, Stamp and Electricity. |
| Maurice Tan. | 20 Lorong 28, Geylang, Singapore, S.S. | Anywhere. | Stamps, Snaps, Fretwork, Post Cards and Air Mail Envelopes. |
| S. A. Uchendu. | Government School, Ajalli, Awka District, Onitsha Prov., Nigeria, W. Africa. | England. | Anything. |
| P.D. M. Epo. | St. Charles Training College, Onitsha Town, S. Nigeria. | Anywhere. | Stamps. |
| V. I. O. Ijeh. | c/o John O. Ijeh, Contractor, Umu-Ahia, S. Nigeria. | Anywhere. | Anything. |
| C. I. C. Nwoke. | c/o P. N. Nwoke, Posts & Tells., Onitsha, Nigeria. | Anywhere. | Anything. |

You can get great fun from

A CATAMARAN

THE catamaran is a type of vessel having much to recommend it. It is comparatively easy to construct and is as safe as any vessel can be. Of course, it is not a speed boat, but is excellent for navigating shallow, weed infested waters and for river sport generally.

A side view is given in Fig. 1, which, with the end view in Fig. 2 will give a good idea of the construction. Make the pontoons first. These consist of two boards, nailed to vertical divisions A-B.

Curve the boards to a point at the fore ends; at the rear ends they are curved to leave a flat, 2ins. wide, to which the rudders will be hung. Posts, C-D are nailed to the ends.

The Pontoons

They are cut from 2ins. by 4ins. stuff and have their outside edges planed to the curve of the sides. Get all the outside edges level, trimming them with a plane if necessary, so that the sides of the pontoons will bed down satisfactorily and not leave gaps.

At E, glue a 2in. sq. block of wood in the centre of the top board underneath, to provide a foundation for the screw hook holding the mast stays.

The centre of this should be marked on the top of the board by a cross, as a guide to fixing the hook. Also draw pencil lines across directly above the centre of the division pieces as a guide to exactly where they are. This will be helpful when fixing the cross bars afterwards.

Use Good Plywood

Plywood, of a quality that will bend to the curve, should be chosen and should be cut in strips with the grain running across to facilitate the bending. Coat the outside edges of the boards, division pieces and posts with thick paint, lay the plywood over and nail closely in contact.

Where joins in the sides are necessary, arrange for these to come over the division pieces. At the fore ends butt the meeting edges of the plywood neatly together and at the rear ends, trim off level with the flats of posts D. Fig. 3 shows the pontoon cut away to give construction.

The sides of the pontoons are to be covered with some material, calico will do, as the water will play havoc with the plywood otherwise. Cut strips for the

purpose long enough to reach the full length of each side and with an inch to spare, top and bottom, for bending over.

The Covering

Apply to the sides a coat of thick lead paint, lay the calico over and rub well down into contact. Make a neat job and avoid creases. Where the material meets at the ends, fold together and copper tack down.

The spare inch top and bottom is best glued over to hold down securely. Snip the curved parts to avoid creases.

The cross bars, F, G, are now cut to length and screwed to the pontoons. Two screws will be enough each side and preliminary holes should be bored for them.

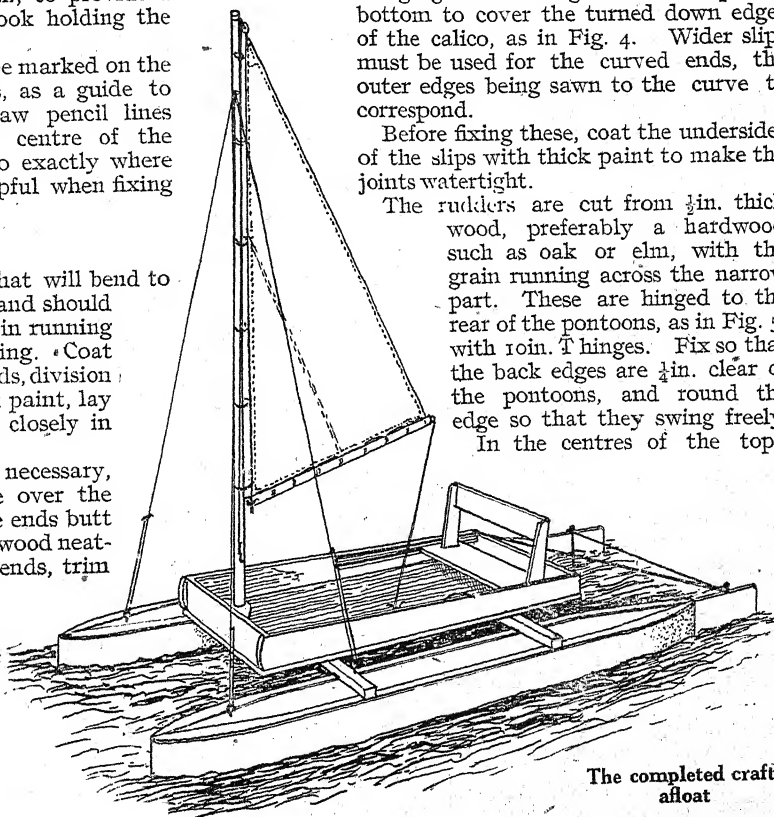
Ordinary wood screws are not used for this job, but 4in. coach screws, as in Fig. 7, driven in with a spanner. These screws will be driven through the bars into division A, B, the pencil lines previously drawn across being taken as guides for boring the holes in the right place.

Planed slips of wood, 3in. by 1in., are nailed along against the edges of the top and bottom to cover the turned down edges of the calico, as in Fig. 4. Wider slips must be used for the curved ends, the outer edges being sawn to the curve to correspond.

Before fixing these, coat the undersides of the slips with thick paint to make the joints watertight.

The rudders are cut from 3in. thick wood, preferably a hardwood such as oak or elm, with the grain running across the narrow part. These are hinged to the rear of the pontoons, as in Fig. 5, with 10in. T hinges. Fix so that the back edges are 1in. clear of the pontoons, and round the edge so that they swing freely.

In the centres of the tops,



The completed craft
afloat

drive in a stout screw eye. The rudders are linked together by a bar of $\frac{1}{2}$ in. by $\frac{3}{4}$ in. iron. Drill two holes in the iron link the correct distance apart and drive the screw eyes through these into the rudders.

Steering Gear

Lines for steering are tied to the screw eyes, and crossed so that the line attached to the left rudder comes to the right side of the boat, and vice-versa. The ends of these lines can be passed through screw eyes or small pulleys, fixed to the sides of the platform at convenient spots.

Now give the whole pontoons two coats of best lead paint all over, enamel the iron links, and well grease the hinge pins.

The platform consists of sides and ends, joined to a stout floor of T. and G. boards with screws. Note the fore ends of the sides are curved and taper from 6 ins. high at the front to 4 ins. at the rear. Fig. 6 shows part of the platform and how the mast is supported.

These supports are cut from 1 in. thick board, are 4 ins. by 12 ins. and shaped as shown. The top one is screwed to the front of the platform, the bottom one to the flooring. Holes are bored of a size to admit the mast freely but without wobble.

A low seat is provided. This is a 9 in. wide board, of at least 1 in. thickness. A back is recommended for comfort and is a 4 in. wide rail, screwed to side supports near each end. Fit the supports at a slight backward angle, and as a strong joint to the seat is very necessary, groove in $\frac{1}{2}$ in. deep and screw from beneath, as in Fig. 8.

The ends of the seat fit between strips of wood each side, as shown in dotted lines, so that it can be shifted along to the most convenient position. Fix the platform to the cross bars with bolts and nuts.

The Mast and Boom

The mast is a length either of straight grained spruce or bamboo, about 2 ins. diam., tapering to 1 1/2 ins. at the top.

The boom is similar, or can be a trifle less, say 1 1/2 ins. diam. To each end of the latter fit a screw eye. To hook the boom to the mast, drive in a screw hook, as seen in Fig. 1.

At the top of the mast, fix a hook on which a pulley block can be hung for raising the sail. A little below this fix a hook each side for the mast stays to be attached to. Similar hooks are screwed in the pontoon, as shown in Fig. 1. This illustration also shows how the mast stays (strong lines), are fitted.

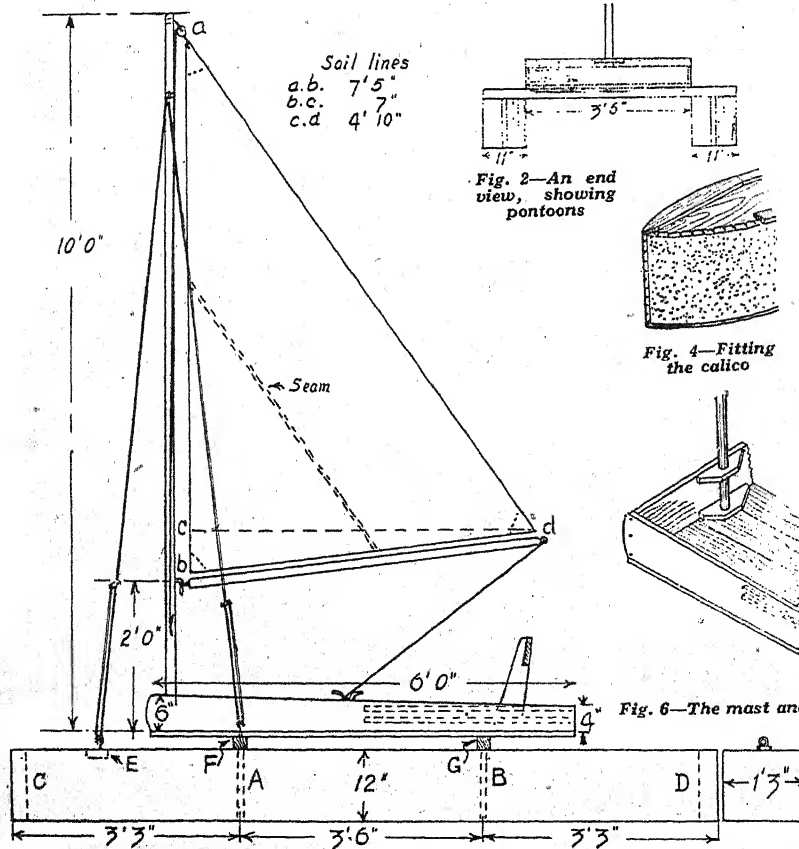


Fig. 1—A side view with helpful dimensions of craft and sail

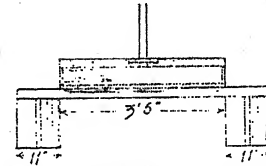


Fig. 2—An end view, showing pontoons

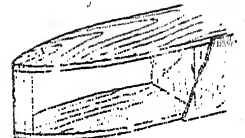


Fig. 3—Cutaway view of pontoon showing construction

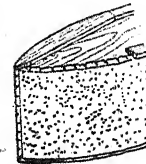


Fig. 4—Fitting the calico

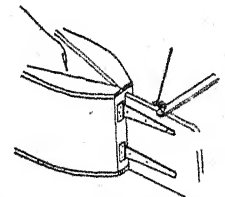


Fig. 5—The pontoon rudder

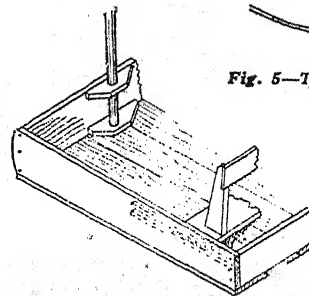


Fig. 6—The mast and pontoon detail

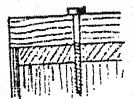


Fig. 7—Screw fixing

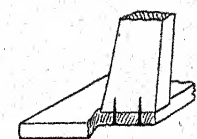


Fig. 8—Seat supports

Calico will do for the sail, a pattern of which should be cut out of paper. No difficult job this if done the proper way. Paste a few sheets of paper together to form a large enough sheet, and mark off line A, B on one edge.

At the correct distance from b, mark off point c, and from there and at right angles to a—b draw c-d. Connect points a-d and b-d, and cut out.

Lay the calico flat and free from creases, place the pattern over with the edge a-d against the selvedge edge of the calico, pin to it, and cut out the material, allowing in. all round for hemming.

In each angle insert a small piece of material to strengthen the corners, and hem all round, inserting a length of cord in the hems along a-b and b-d. At intervals of gins. fix brass eyelets for lashing to the boom and mast.

Two widths of the material will be required to make up the full width of the sail, and the join should run parallel with edge a-d. The catamaran is now completed, except for minor details.

The platform, etc., should receive two coats of

paint or varnish, also varnish the mast and boom. A cleat should be fixed near the bottom of the mast to which the line, used for raising the sail in position, can be secured.

A smaller cleat should be fixed to the side of the platform to hold the line which controls the movement of the boom.

Cutting List

| | No. | Length. | Width. | Thickness. |
|---|-----|-------------|--------|------------|
| Pontoon boards | 4 | 10ft. 0ins. | 11ins. | 1in. |
| Division pieces | 4 | 0ft. 10ins. | 11ins. | 1½ins. |
| Posts | 4 | 0ft. 10ins. | 4ins. | 2ins. |
| Cross bars | 2 | 5ft. 4ins. | 2ins. | 2ins. |
| Platform sides | 2 | 6ft. 1in. | 6ins. | 1in. |
| Ends | 1 | 3ft. 4ins. | 6ins. | 1in. |
| Ends | 1 | 3ft. 4ins. | 4ins. | 1in. |
| Rudders | 2 | 1ft. 0ins. | 15ins. | 1in. |
| Seat | 1 | 3ft. 4ins. | 4ins. | 1in. |
| Seat ends | 2 | 1ft. 0ins. | 4ins. | 1in. |
| Back rest | 1 | 3ft. 4ins. | 4ins. | 1in. |
| 2½ sheets, 5ft. by 4ft. of ½in. or 3/16in. plywood for pontoon sides. | | | | |
| 60ft. 1in. T and G floorboarding for platform. | | | | |
| 30ft. ½in. by 1in. strip and 60ft. ½in. by 3in. strip for covering pontoon edges. | | | | |
| 12ft. ½in. by 1in. strip for seat guides. | | | | |

PHOTO COMPETITION WINNERS

THE number of entries for this month is a little disappointing, seeing that we are offering prizes for a variety of subjects of a very simple nature—namely Sports, Landscapes and Gardens. The quality of the work, too, is not as good as we have had in the past.

Some of the entries really do not quite answer to any of the subjects and we should like all competitors to watch this point because they might be entering a very fine photograph but be spoiling their chance of a prize by sending it in

when there is not a class for that subject. For instance, a study of a dog cannot compete in a landscape class, and such a print should be kept for competing in a class for animals.

The Open Section

In the Senior Class the first prize goes to G. E. Hewitt of Gainsboro', for "Young Beekeepers have confidence." We are stretching a point here because it could be a garden scene or even a sports subject. Photographically, it is very good, as regards exposure, developing and printing.

The second prize is awarded to W. Evenden, of Ashford, Kent, for "Springtime." A pleasing picture, which would have been much better if horizontal instead of upright.

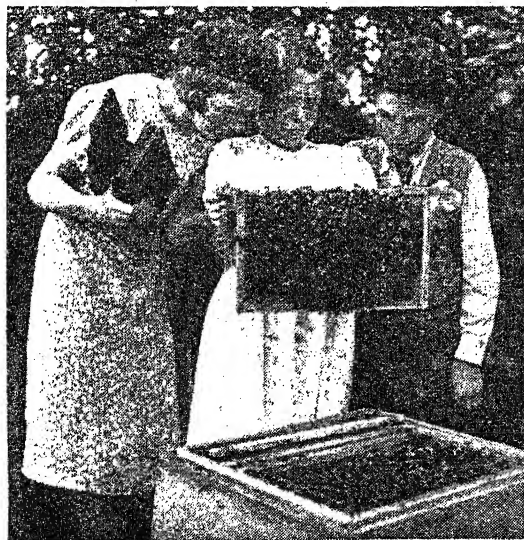
D. Waddingham, of St. Albans, made a very good attempt at a difficult subject, which would have been greatly improved if the amount of foreground could have been reduced. It rather overpowers the view.

Junior Section

In the Junior Section the first prize must go to Peter Bloomfield, Reading, for a snap of Goring-on-Thames. This is a nice little picture, but it would have been better without the tree on the extreme right where all detail is lost.

Second prize is taken by James Grayshan, of Bradford, for the "Drawbridge and Moat at Wells." Here again the trees overhead are lacking in detail, largely because they are under exposed.

Prizes have been sent to the winners, and we hope all those not fortunate now will try again in the remaining competitions. There is still an opportunity.



The Prize Winning "Snap" in the Open Section

Lots of interesting things in these SCOUT NOTES

What to Look For

ALTHOUGH a happy camping month, August is tinged with sadness as far as nature is concerned, for it tells us of the first approach of Autumn. Our friend the Robin will be heard telling you in song of this imminent change of season.

However, it is a very pleasant month and troop or patrol funds may be augmented by fruit picking or helping with the harvest. Either of these occupations proves a pleasant means of doing a good turn to the farmer who loans you his field. Do not forget to look for Harvest Mice nests in the corn.

The stripping of the fields of their crops will drive many of the animals (stoats, weasels, game, etc.) who spend the summer therein back to the woods and forests. To huntsmen August means the starting of the cubbing season.

Duck and Grouse shooting begins this month, and, for those who do not mind going out early in the morning, mushrooms may be gathered. A good breakfast dish this for camp, but make sure they are mushrooms before you eat them.

The Camping Month

ONCE more the camping month of the year has come round again and good camping is my sincere wish to you all. There are so many campers of various sorts about now that it behoves all Scouts to put on their best behaviour and not abuse the privileges allowed them in order that the many restrictions on camping which are found to be necessary may not be applied to the Scout movement.

Remember that how you conduct your camp this year may mean everything to the Scouts ten years hence. For bad camping will mean more restrictions and so future generations will suffer for your sins of omission.

There is a very interesting little pamphlet issued by H.Q. on "Camping Rules" and I strongly advise all who have time to send for one or ask your Scoutmaster to lend you his copy. Study this and carry out the suggestions therein and you need have no fear of visiting Commissioners.

Camping Hints

ABIRD cage covered with muslin and hung under a tree makes an ideal cool safe for butter, etc., while at camp. The muslin keeps out flies and other insects and if hung in the shade keeps things fresh and cool. Hang out of reach of animals.

A suitable tree and a few boards and lashing and a fine lookout can be made. If a rope ladder is used also it can be drawn up and the look-out made inaccessible.

A layer of brown paper between two blankets or under a bed greatly increases the warmth of the sleeper.

Great difficulty is often experienced in loosening the joints of lightweight and other tent poles. Polish the joints with blacklead and this difficulty is soon overcome.

Fat for frying should be thoroughly hot before using. When the top of the fat begins to smoke a little—that is the time to put your food into it. Insufficiently hot fat causes the food cooked in it to taste of grease.

Smile and Win

EVERY Scout should obey the eighth Scout Law and as we are now starting our regular monthly competitions again, here is one which will give us an opportunity of judging whether you are a really good eighth law scout or not.

Send in on a postcard what you consider the best joke you have heard lately and a handsome prize will be forwarded for the best effort. Consolation prizes will be awarded as well.

Address your entries to "Scout Competition" Hobbies Weekly, Dereham, Norfolk, and send them in by August 13th.

Some of those jokes heard round the camp fire must be worthy of reproduction and we will publish the best one submitted in our October issue.

I don't want you just to copy one out of another book because that wouldn't be fair. There must be lots of tales you will actually hear—well, write them out and send on to me.

Air Raid Precautions

IN view of the National interest in A.R.P. (the abbreviation for Air Raid Precautions) I intend giving a few notes on this subject month by month. Scout readers of this magazine may thus be ready in case of an emergency to offer their services in the various capacities set out for Youth Organisations.

Many older members of the Scouts will remember with gratitude the services rendered by Scouts during the last war and although we hope and believe that such a catastrophe will not happen again it will be in accordance with our Scout Motto in being prepared to help should the necessity arise.

We will start off with a very brief survey of the various gases likely to be used in warfare. Gas in the A.R.P. sense is "Any chemical substance solid, liquid or gas used in warfare for its irritant or poisonous effect on the human body."

Note, therefore, that gas can, in this instance, be a solid, a liquid or a gas.

(To be continued)

The Skipper

The amateur electrician should know these POLE-FINDING DEVICES

THOSE of our readers whose work is concerned with accumulator charging, primary batteries, dynamos, electroplating, etc. no doubt will often have found the need for quickly determining the polarity of a circuit when making connections, as it is especially important to see that the current passes the right way round, otherwise it may cause considerable damage to the work in hand. As, for instance, an accidental reversal of accumulator polarity when being recharged.

To guard against such occurrences there are various kinds of "Pole-finders" available, and although the experienced electrician may not often have need of them they are indispensable to the amateur.

Battery Polarity

Often the trained electrician will be able to determine without test which is the positive terminal of a primary battery from his knowledge of its construction. But those who handle batteries infrequently may not always remember

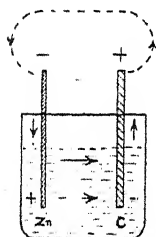


Fig. 1—Battery Elements and Poles

that of the two "elements" in a battery it is the one which is acted upon most rapidly—that is, wastes away more quickly—that is the negative element.

Consequently, its outside terminal will always be the positive pole in the circuit. Fig. 1 will explain this apparent contradiction, and make clear the distinction between "elements" and "poles." Here there are two simple elements of Zinc (Zn) and Carbon (C.), standing in a jar containing dilute sulphuric acid.

The Action

The zinc, being chemically acted upon by the acid, becomes electro-positive (+) to the carbon (—) in the solution. If the terminals of the two elements are connected together by a wire as shown by the dotted line, current would flow round the circuit in the direction shown by the arrows.

But if current goes in at one end of an element it must come out at the other. Hence the carbon is negative in the cell but its outer or terminal end is positive to the circuit as a whole, the

positive being the terminal at which current leaves the cell.

Nearly all primary batteries in commercial use have carbon for one of the elements and we know therefore that carbon not being chemically acted upon its outer terminal will always be positive.

Accumulator Polarity

With the ordinary lead-acid accumulators it is also easy to determine the polarity from inspection, provided the plates are visible and not sealed in. For the positive terminal will be that attached to the chocolate coloured set of plates, while the negative pole will be that connected to the grey set of plates.

In such cases as this, a casual glance is sufficient, but when the battery elements are sealed into an opaque case with only the terminals visible, and perhaps the original marking to distinguish the polarity has disappeared, it is then that some form of polarity finder becomes essential.

Most of these devices are quite simple, but they do not seem to be very familiar to most workers. Some are electro-magnetic, others are electro-chemical in action. The latter are the more sensitive where small current values or low potentials are concerned.

Magnetic Pole-finders

The first of these is the Compass Detector. Any ordinary compass with a freely pivoted needle about 1½ ins. long will serve the purpose, and if held directly underneath and parallel with a wire forming part of the electric circuit it will

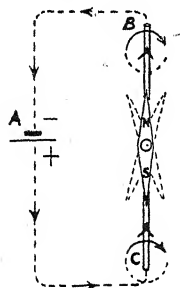


Fig. 2—Effect of current on Compass needle

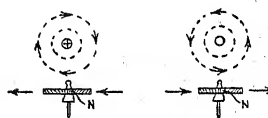


Fig. 3—Deflection of Compass with current reversal.

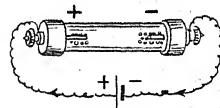


Fig. 4—Liquid Pole-finder

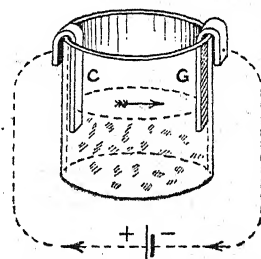


Fig. 5—Polarity test with Lead strips.

deflect either to the right or the left when the circuit is closed, according to the direction of the current, thus indicating the polarity.

This is explained by reference to Fig. 2 and Fig. 3, and depends upon very simple first principles. When a wire is carrying current it becomes the seat of a magnetic field, the direction of which depends upon the direction in which current is flowing.

In Fig. 2, A represents a battery, B C a straight wire, and N S a magnetic compass needle, the

wire being placed parallel with the axis of the needle when the latter is at rest, and as close to it as possible.

If the battery circuit is now completed current will flow from its positive + terminal through B C in the direction of the arrow heads, setting up a magnetic field around it as indicated by the curved arrows.

This field naturally reacts upon the poles of the compass needle and according to the laws of the magnetic circuit that "Like Poles Repel" and "Unlike Poles Attract" the needle will be deflected left-handedly in the direction shown by its dotted outline. If the current in the wire is reversed in direction the needle will at once deflect in the opposite direction.

Fig. 3 shows these two conditions looking at the north end of the compass needle end-on. The figure on the left represents current passing along the wire away from the observer, and that on the right the conditions when coming towards him.

From the deflection of the needle, therefore, the direction of the current will be known and the consequent polarity of the battery terminals supplying it.

Galvanometers as Pole-finders

There are some forms of galvanometers and voltmeters used for general testing purposes in which the deflections are due to the current affecting a small internal permanent magnet.

Such instruments usually have their terminals plainly marked + and -. If, when connected to the circuit, of which the polarity is unknown, the needle deflects towards the right it is proof that the wire attached to the positive terminal comes from the positive of the battery. But if it deflects in the reverse direction that wire which is attached to the marked positive instrument terminal will be the one connected to the negative battery terminal.

Such instruments as these can therefore be used as Pole-finders, if the above fact is borne in mind.

Liquid Pole-finders

This class of pole-finder depends upon the electrolytic effect of current upon certain chemicals in solution.

One form consists of a glass tube, sealed at both ends with metal caps which form the terminals, containing water made slightly acid to render it a conductor of electricity.

The metal caps have pins which project into the solution, and when a direct current is passed through the tube the water is decomposed into its two constituent gases, hydrogen and oxygen. The oxygen collects in bubbles at the positive, and the hydrogen at the negative terminal.

Since there is twice the volume of hydrogen as of oxygen that terminal which is the more thickly covered with bubbles will be the negative (Fig. 4).

Another Method

Another simple liquid test for polarity is to immerse two small strips of clean sheet lead into a jar containing accumulator acid (Fig. 5). After

the current has been passing a short time one strip C will turn a chocolate colour, while the other strip G remains grey.

The chocolate strip is the one which has been attached to the positive pole.

Pole-finding Papers

It is not always convenient to deal with liquid pole-finders, and a very handy and portable type is that which takes the form of a chemically sensitised paper. Cut into strips and bound into small books this can be carried in the pocket and when required a strip can be torn out.

The strip requires to be moistened with clean water and the ends of the two wires to be tested laid upon it about a $\frac{1}{2}$ in. apart, when one pole will be permanently marked if the supply is direct current, but not if it is alternating.

One kind of test paper is the iodine-starch combination and in this the positive wire stains the paper purple where it touches. Another kind of test paper employs the chemical known as Phenolphthalein. This turns pink round the negative wire, but does not discolour at the positive.

How to Make

The iodine-starch pole-finding paper is easy to make up, the process being as follows. Dissolve half an ounce of saltpetre and half an ounce of potassium iodide in half a pint of warm water.

One ounce of starch is then made into a thick cream with a few drops of cold water, and half a pint of boiling water then poured on it stirring vigorously until it becomes "cooked." Add to this the ready-made solution of iodide while still warm, and stir well, the final product being very little thicker than water.

When cold, strips of white chemical filter paper $\frac{1}{2}$ in. wide are drawn through the mixture and hung on a line to dry. This is preferably done in the dark or the paper may discolour.

When quite dry, the paper strips may be cut into 2 in. lengths and pinned together in packets or "books" of 25 or 50 leaves, secured at one end by a brass paper fastener. This paper is non-poisonous and may be moistened by the tongue when required for use.

Neon Polarity Indicators

Finally there are one or two devices on the market, such as the "Voltascope" and the "Test-o-Lite," which consist of small neon gas-filled bulbs with two flexible electrodes or spike contacts in series with a very high resistance.

The primary use of such instruments is to trace faults in wiring, and to distinguish between the "live" and the "neutral" side of a circuit.

They also serve to show the difference between direct and alternating current, as either contact will cause the lamp to glow when applied to the terminal of an A.C. circuit, but only one if it is D.C.

The latter peculiarity makes it possible to use the instrument also as a polarity indicator when the circuit is supplied with direct current.

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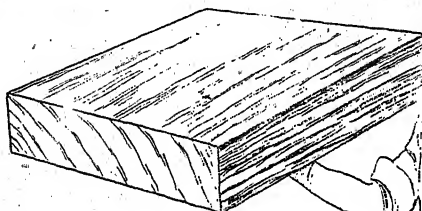
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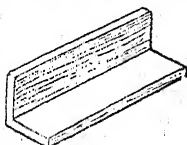


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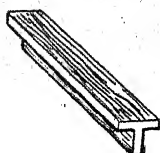


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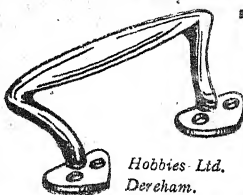
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|---|-------|------|---|------|------|
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| $\frac{1}{2}$ in. x $\frac{1}{4}$ in. ... | 1d. | 10d. | 6in. x $\frac{1}{2}$ in. ... | 1/5 | 15/9 |
| 2in. x $\frac{1}{4}$ in. ... | 3½d. | 3/3 | $\frac{3}{4}$ in. x $\frac{1}{2}$ in. ... | 2½d. | 2/3 |
| 3in. x $\frac{1}{4}$ in. ... | 4½d. | 4/3 | 6in. x $\frac{3}{4}$ in. ... | 1/8 | 19/- |
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| 6in. x $\frac{3}{4}$ in. ... | 11½d. | 10/6 | $\frac{3}{4}$ in. x $\frac{3}{4}$ in. ... | 5½d. | 5/3 |
| $\frac{1}{4}$ in. x $\frac{3}{4}$ in. ... | 1½d. | 1/8 | 1in. x 1in. ... | 7½d. | 7/- |
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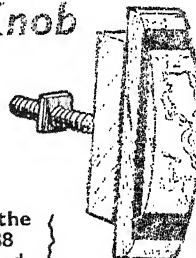
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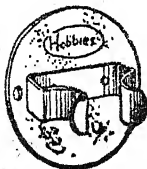
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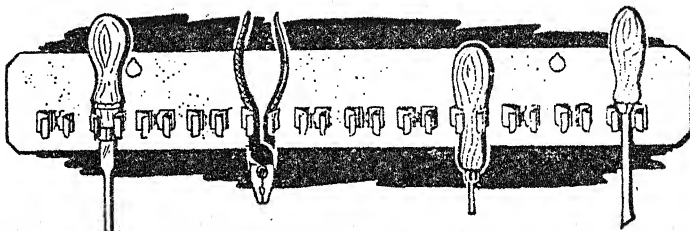
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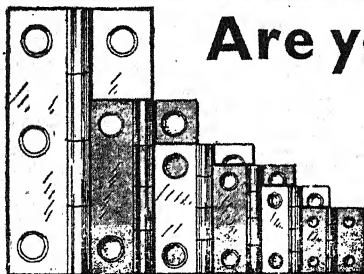


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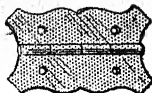


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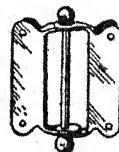
FANCY HINGE

No. 5379 1 1/2 in. wide.
Price 3d. per pair.



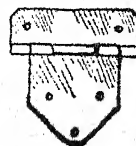
STRUT HINGE

No. 5384 1 1/2 in. wide.
Price 2d. each.



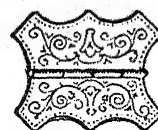
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No. 5217. For 1 in. wood. Price 3 1/2 d. ea.
Fix with fine brass nails.



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No. 5308 in two sizes.
1 in. 1 1/2 d. pair. 1 1/2 in. 2d. pair.
Fix with fine brass nails

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and branches and agencies everywhere.

The bevelled step is a piece of 2in. by 4in. wood, shaped as in Fig. 4, the back edge being rebated 1in. wide to fit beneath the floorboards and the top bevelled off as shown.

Trim it each end to fit round the angle fillets at the corners, fit in place and secure with nails through the floor. It may be mentioned that the provision of this step is to facilitate running in the roller and mower. It can be omitted if those implements are not included.

The two doors are plainly shown in the general view of the completed shed. Just T and G boards,

Hinge the frame to the back of the shed with 1in. by 2in. steel butt hinges and let it overlap 1in. all round.

Cover

In favourable weather the lid should be raised for ventilation, and to keep it up, cut two pieces of wood 12ins. long and fix one each side with a screw, as at B. These, when raised, will support the lid quite well. This completes the woodwork.

Give the underside of the floor and battens a

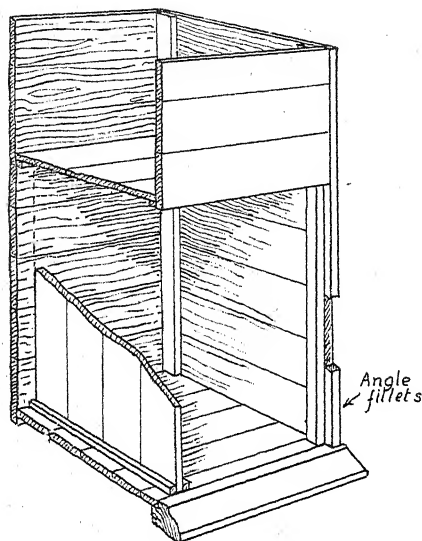


Fig. 1—Perspective view of construction

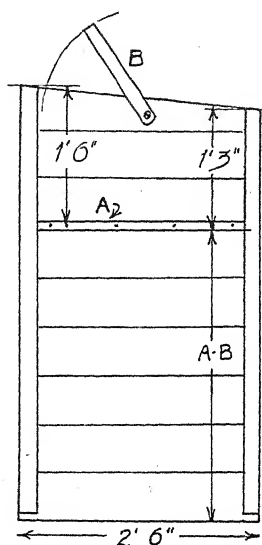


Fig. 2—Ends of shed

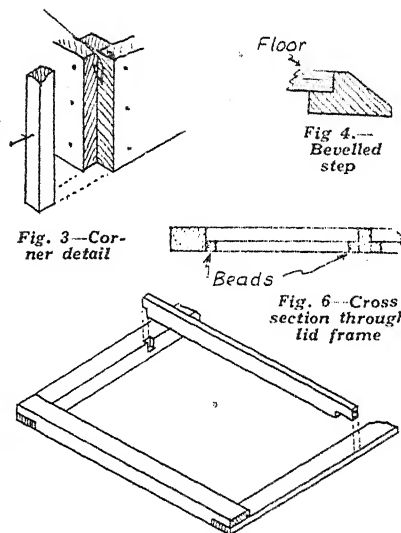


Fig. 5—Jointing glazed lid

nailed to battens and hinged with T hinges, as shown. Now for the rooflight which forms the lid.

This should measure 1in. larger all round than the shed. Make the sides and back of 1½in. by 2½in. wood and the front piece ¾in. by 2in., fit together to form a frame with a halved joint at the corners, well glued and nailed, as in Fig. 5. The intermediate bars, three of which will be required, are ¾in. by 1½ins., and are notched into the back rail and rebated to fit over the front one as shown.

To form a rebate for the glass, fix ¾in. by ¾in. beads, or slips, round, as shown in the cross section, Fig. 6. The beads should be level with the front rail.

coat of creosote to protect against damp. Then apply a coat of paint to the shed, inside and out.

To glaze the lid, first press putty in the rebates, then lay the glass on top and press well down until the putty is only ¼in. thick. Strip off superfluous putty squeezed out underneath and drive in a few sprigs over the glass to keep it firmly down. Now apply a finishing coat of paint all over.

In cold, frosty weather a small lamp should be kept lighted in the shed. This will warm the air sufficiently to ward off any danger to the plants arising from frosts.

Only a small lamp is needed, and it can be placed on the floor where no danger of fire is likely to occur.

Galleon Bases—(Continued from opposite page)

Four square feet glued on at the corners underneath add to the finished appearance. Frequently, a plain box or casket can be greatly helped in appearance by adding a more or less decorated base (see Fig. 4) how this can be done. If the box is square or oblong and with square sides, a shallow box without a bottom is first made to the same size as the casket itself. Add a top to this box and around the four sides is then fitted Hobbies No. 24 moulding.

Around the base of the sides a heavier moulding (Hobbies No. 21), gives a really solid appearance.

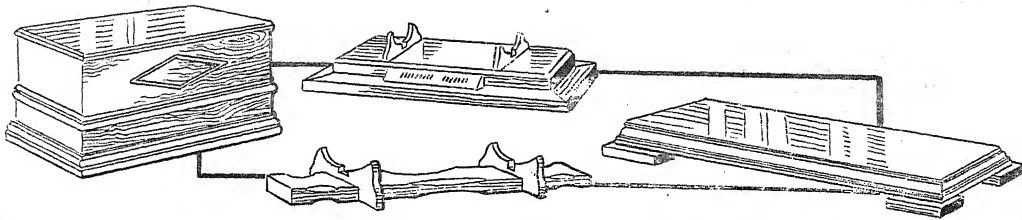
The angles inside the shallow box are strengthened by angle fillet.

For galleon bases, plain oak could hardly be beaten, although a light staining often softens them down. Painted bases seldom look so good as stained or varnished ones.

A base for a cabinet or an intricate casket would look well if ebonized and then varnished.

If the base described in Fig. 3 is to take, say, a waterline model of a liner, then the top surface should be painted to represent the sea, either oil or poster colour being used for this purpose.

BASES FOR MODEL GALLEONS



WE have from time to time been asked to supply designs for the bases of model galleons, ships engines, etc., and this week we are giving a few suggestions which may be worked up.

In Fig. 1 is shown a good all-round type of base, where, to form the lower member, four pieces of thick wood are mitred up and glued, and a second thicker piece put on the top to give solidity to the whole.

The upper member must be set out to allow a margin around the under base, and should be either chamfered around the top or rounded off.

Shape to the Hull

The actual rests for the galleon must, of course, be shaped to correspond with the hull of the boat. The true shape can be got by first cutting a cardboard templet and testing it against the model in hand. Then, transfer the outline to the wood and cut round with the fretsaw.

In Fig. 2 we show two plainer types of bases, but which require perhaps a little more work and fitting. The base at A consists of a long strip of wood, the length, of course, being set according to the length of the model.

At certain distances from each end of the strip, sinkings are cut with the tenon saw or fretsaw as shown in the diagram in the circle at the top. Into these recesses the uprights are glued after being shaped and fitted.

Recess Shapes

The shaped chamfers along the edges of the middle strip should be marked out for length and

width and cut in with a sharp chisel. There is a recess made in each upright to fit that of the base so that a perfectly strong joint results.

In the larger circle in Fig. 2 (B), another base of similar design is shown. In this a flat strip is adapted with rounded ends, but no cut out recess, and the uprights are simply glued and screwed through to it.

The Simplest Form

This base is undoubtedly the simplest to make and requires but little wood. For models of a different type from galleons, we should suggest a base of perhaps a little heavier make, as no doubt the length and breadth will be much greater.

The detail of one angle of a built-up base is shown in Fig. 3. In this base there is a frame of flat deal wood halved together at the corners and glued and screwed together.

On this frame is glued and nailed a sheet of sound plywood cut exactly to the same size as the frame. Then on all four edges around this is fixed a moulding of such width that the deal frame and half the thickness of the plywood are covered.

A base of this construction is very strong, and sizes up to 24 or even 30 inches by about 6 to 8 inches in width, can be made this way.

For, say a 24in. length of frame, the deal strips should be not less than 1½ins. wide, and above this length the frame should be strengthened in the middle by a cross rail half-lapped into the long side rails.

Moulded Edging

Hobbies No. 303 Moulding which can be got in ¾in., 1in. and 1½in. widths, make admirable edge finishings for a base, while for a heavier type of base, Hobbies No. 17 moulding would be very suitable. In using the mouldings, mark and cut the mitres accurately.

(Continued on opposite page)

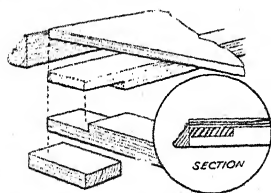


Fig. 3—Base framing

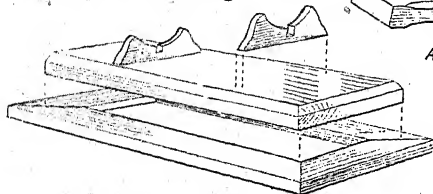


Fig. 1—Framework and supports

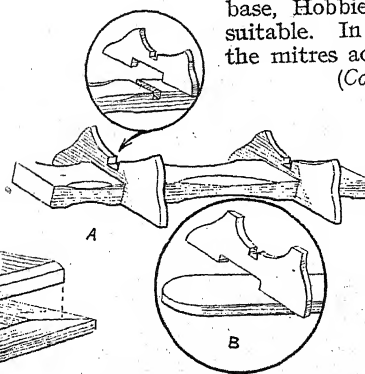


Fig. 2—A simple shaped base

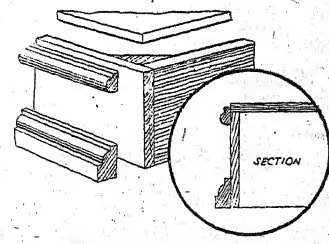


Fig. 4—A box formation

Some of the jobs for you in THE GARDEN IN AUGUST

The Vegetable Plot

SPRING sown onions will need attention during August. In the warmer parts of the country and in early situations these should be lifted and laid out on shelves to dry before storing.

Where the onions are not yet ready for lifting the tops of the thick necked bulbs should be bent over for a week or two when they will be ready to be taken up for drying and storing.

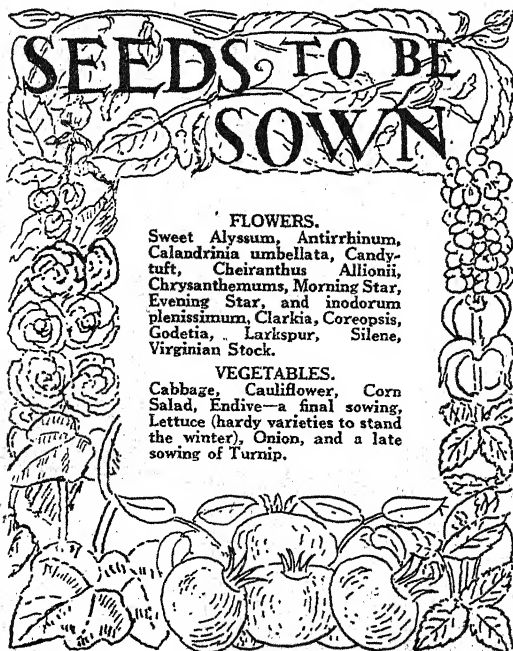
It is a good time to make a sowing of winter onions. The bed should be well prepared and made firm as onions more than most plants need a really firm seed bed.

If a sowing of cabbage was made early last month the young plants will be ready for thinning, if the weather is dry they should also be well watered now and again.

Thin the Spinach

Another vegetable which will need carefully thinning at this time is July sown spinach. August is also the best month for cutting and drying many favourite herbs. When cut the herbs are hung to dry in a cool shady position.

Tomatoes will need looking after just now to get the best from them. Under ordinary weather conditions the fruit should be ripening steadily and it is a good plan during the first ten days of this month to stop the plants.



FLOWERS.

Sweet Alyssum, Antirrhinum, Calandrinia umbellata, Candytuft, Cheiranthus Allionii, Chrysanthemums, Morning Star, Evening Star, and inodorum plenissimum, Clarkia, Coreopsis, Godetia, Larkspur, Silene, Virginian Stock.

VEGETABLES.

Cabbage, Cauliflower, Corn Salad, Endive—a final sowing, Lettuce (hardy varieties to stand the winter), Onion, and a late sowing of Turnip.

The best method of stopping is to cut off the top of the plant so further growth is prevented at the last fully open truss of flowers.

This truss will, if the weather proves kind, mature its fruit, but in a poor weather season this is not to be expected. After the plants have been stopped in this way they will send out a number of side shoots, as soon as they show themselves these side shoots should be removed or the plants will become choked up with foliage.

Finish planting winter greens and late broccoli as early in the month as possible. If the weather is dry when the planting is done well water the plants in to give them a good start, because they will never altogether overset a check at this stage.

Among the Flowers

IN the flower garden it is a big mistake to leave flowers to die on the plants unless the seed is wanted. Many plants will quickly leave off flowering if seed is allowed to begin to form, while if the flowers are cut as soon as they begin to fade or before this they will keep flowering freely for weeks. Also dead flowers on plants quickly make the garden look untidy.

The present is a good time to increase many varieties of pansies. This is best done by carefully separating from the parent plant the small rooted side pieces or tufts, avoiding hollow stemmed pieces for this purpose.

These small tufts will quickly begin growth again if planted in a cold frame, but if you have not one of these a very big proportion will grow and do quite well if carefully planted in the positions they are wanted to occupy out of doors. Especially if they receive attention with the watering can should the weather be dry while they are getting a hold in their new positions.

Dealing with Pentstemons

Those who have some fine plants of pentstemons of which they wish to take cuttings so that they have a supply for the following season will need a cold frame or glass in some form.

Strong side shoots of well seasoned wood should be broken from the parent plant and the lower leaves removed. A few pots will be needed and after making a horizontal cut just below the lowest joint the cuttings should be inserted round the sides of a pot. The pots are best filled with a light sandy loam.

If only very small pots are at hand one cutting may be inserted in each pot, but usually the cuttings will root more quickly if placed at the side rather than in the middle of the pots.

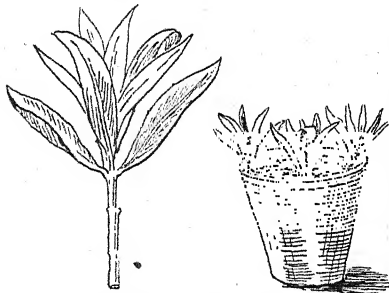
If there is only one cutting to a small pot it will be easier to move the plants to larger pots later without checking the growth. The cuttings

should be well watered and placed in the frame which is closed down and shaded in bright sunshine.

Later Handling

When the cuttings are rooted the lights should be lifted in mild weather but closed and protected during frost. About March the plants should be placed in larger pots and about the second week in May they may be planted where they are to flower.

Plants grown in this way will flower before those raised from seed or by division of the roots.



A cutting of *Pentstemon* and how to insert round a pot

Hollyhocks may be increased by cuttings during this month as may also fuchsias and cuttings of hardy shrubs may be taken and inserted for rooting now.

Fruit

As soon as raspberry canes have finished fruiting the old canes are best removed. Late strawberries will be well over by now and if not begun earlier a start ought to be made with getting the beds clean and in good order at once.

The best way to get rid of the rubbish is to burn it, the old leaves of the strawberry plants should be cut off and burned at the same time.

Testing for Ripeness

A few early varieties of apples and pears are ready at this time, but if the fruit is wanted for eating or for storing it is a mistake to gather it before it is really fit.

The best method of testing fruit to find out whether or not it is ready to gather is to lift it on the palm of the hand while still on the tree.

If a few fruits are tested in this way and four out of six part from the tree without being gripped or twisted it may be taken for granted that the apples or pears on that tree are ready and may be gathered for storing or eating.

Cooking apples are sometimes gathered before they are ripe, for use at once, but it is only a waste of the fruit to gather for storing before it is fully fit.

Try the novelty of having a HIKE AT NIGHT

FEW people know of the pleasure and excitement of hiking at night, but for experienced hikers there are few expeditions giving more fun. For a first hike choose a short summer night.

Even at mid-summer nights are often very cold and it is a good idea to have a hot drink before leaving, whether hiking from home or from camp.

A warm pullover is a distinct asset and it takes up very little room in a rucksack. Do not attempt a long hike to begin with. The secret of not tiring oneself out is to go easy, and keep going. Walk slowly enough to give the slowest member of the party a chance to keep up, but don't dawdle!

Keep Together

The party should endeavour to keep together for even familiar ground is confusing in the dark. Marshes, over-grown ditches and undergrowth hold dangers for the unwary, and for this reason it is wise to use routes well-known to yourselves for the first few hikes.

Trees and other objects cast weird shadows in some lights and even the most confident stalwart may find he possesses nerves!

A rucksack is very much more convenient than a haversack for carrying kit even on a very short hike. It is put on your back and it stays there wherever you may happen to scramble, whereas a haversack slips round and gets in the way.

On a night hike you will need to carry an extra pair of stockings (in case you step in that bog!), a warm pullover, a map and compass if you think you will need them and, of course, some food.

Midnight Cooking

You may be tempted to take only chocolate and sandwiches with you, but you will probably find, that a hot meal at one o'clock in the morning is most welcome. Besides, cooking your own meal adds to the fun!

In the very early hours of the morning vitality is at a very low ebb and spirits are inclined to flag. The excitement of lighting a fire and cooking a meal in the open and in the middle of the night helps to add a dash of adventure and keeps up the enjoyment of the hike.

Suitable Food

There is no need to name here various hike dishes, but choose those which are simple and do not need much cooking, at least, for first attempts at night hiking. Fruit and chocolate should be included on your menu.

The coldest part of a summer night is between two and half-past two, just before dawn begins to break. Try to be on the road again by then.

Saturday night is possibly the most convenient time for a night hike as there is a better possibility of a good rest on the following day.

Here are some practical hints on PREPARING WOOD SURFACES

A GREAT many young woodworkers often spoil otherwise splendid pieces of work through not knowing how to prepare the wood properly for its finish. Just planing and glasspapering is not enough—unless the article is some rough affair of no great importance.

But, taking things that are important, such as furniture, the preparation demands all the skill one can muster. Even if the wood is cheap, soft stuff like deal, it must be made beautifully smooth and free from waves and tears.

These, though some sometimes invisible to the eye, always show up pretty badly under the coating of paint, enamel, varnish or polish, and in consequence, marks one down as a very careless worker.

Preparing Soft Wood

Fortunately, it is easy to learn and improve upon one's capabilities, providing you have the determination and the correct implements. For timber like pine and deal, a wooden smoothing plane and several grades of glasspaper, together with the cork block (or one made from wood faced with lino) would suffice.

Now, if you look closely at machine-planed timber and move your finger tips lightly over the surface, you will find minute waves or hollows running across. This is due to the rotor-cutting "irons" of the planing machine.

Though planed, therefore, the wood is never quite ready for use. Having selected the best (face) sides of the various parts of the article you are making, mark such with an X or by a looping curve running to the edge that has been straightened and squared.

The smoothing plane must be keenly sharpened and set finely. The cutting edge of the iron, incidentally, must be slightly—very slightly—concave. If too concave or straight, it will cause a series of hollows and streaks upon which glasspaper will have little effect.

When working with deal and other soft wood, the cover of the cutting iron should be adjusted to about $1/16$ in. from the cutting edge.

If the grain is coarse and dotted with "live" and "dead" knots, the adjustment must be as fine as possible—not too fine or the shaving will crinkle up and gather tightly at the mouth of the plane. The whole iron should be also wedged in to project the minimum. That is the secret of good smooth planing.

Mind the "Flat" Grain

Before planing a board, always look at its edges to see how the "flat" or surface grain is running. If straight with the thickness of the board you can plane it right or left, but if, for instance, it is leaning towards the right, it must be planed in that direction, while the other side is planed the oppo-

site way. This saves "digging" up the grain and causing yourself unnecessary labour and bother.

When planing, do it methodically and conscientiously. You have, at the outset, only to remove the wavy marks set up by the planing machine. Roughness around knots should be given special care.

You should try to remove one complete shaving from the board—that is, from head to foot. If very long, shave from the foot to the centre (raise the plane up here) and carry on to the head end. Always shave from left to right of the board, not up the middle or here and there.

This means general evenness and coarse, medium and fine glasspaper will do the rest. Some workers rub the coarse paper across the grain, then with the grain, the medium and fine grades being rubbed with the grain only.

Use of a Scraper

With hardwood like oak and mahogany, a good wooden or iron smoothing plane, plus a scraper is essential. Unlike that of deal, the cover of the iron must always be set fine, particularly with the mahogany which has usually "cross" grain patches.

By having the plane cutter razor keen and adjusted the minimum, you can abolish all care about the grain direction. A really well set plane will shave just as easy against the grain as with it.

Naturally, however, there are bound to be slight marks and roughness, but such can be corrected with the scraper. This, as you might know, is an oblong piece of sheet steel about 5 ins. by 3 ins. by $1/16$ in. thick.

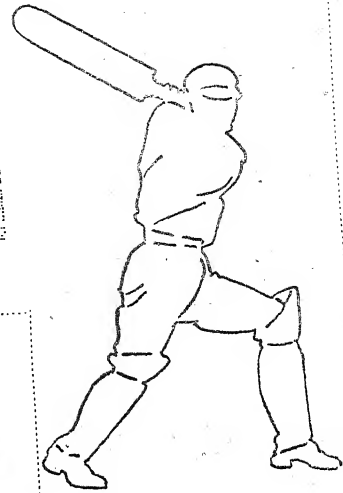
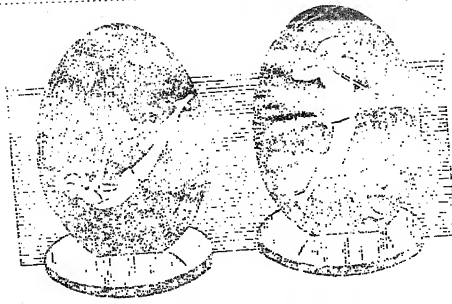
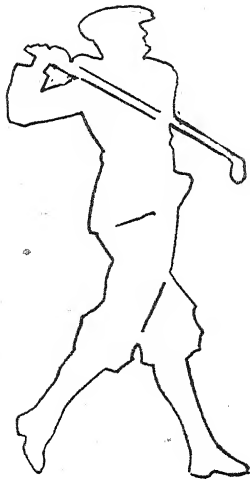
The longer edges are filed square and flat and dressed on an oilstone. The edges are turned over with the back of a gouge or a piece of smooth steel rod so the "burr" is sharp and cuts into wood similar to the keen edge of a broken piece of glass.

How a Scraper is Held

The scraper is held firmly on the wood before you with both hands, the thumbs being pressed behind it close to the bottom or cutting edge. The pressure of the thumbs keeps the edge steady on the timber as you push the scraper forward to bring forth tiny, extremely fine shavings. Hold the scraper at an almost upright angle so the "burr" eats into the wood.

After scraping, use the three grades of glasspaper to make the surface even smoother. A fourth grade is sometimes used, this being No. 0 or No. 00.

When scraped and glasspapered, some cabinet-makers "lift" the grain and possible dents by damping the wood surface slightly with a wet rag, then scrape and glasspaper it again when the wood is dry.



SPORTS SILHOUETTE STATUES IN WOOD

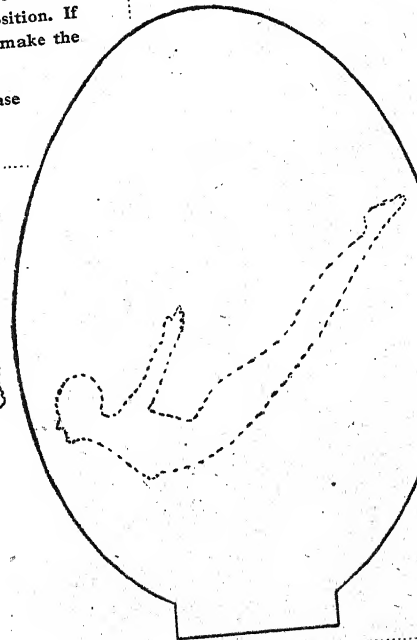
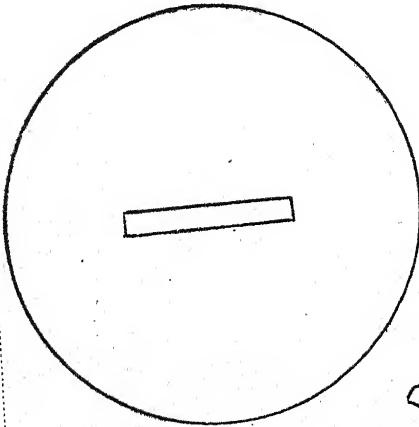
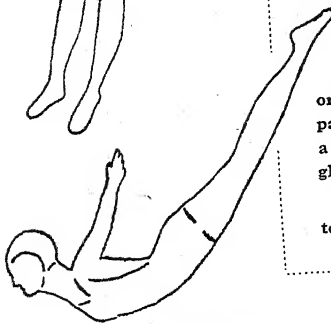
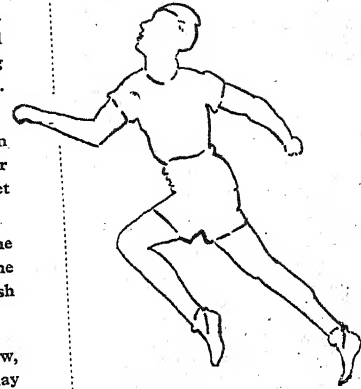
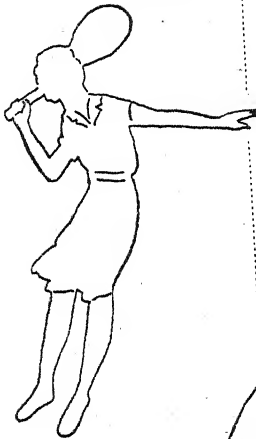
SOMETHING new and pleasing for you. Novel little stands just 3½ ins. high with realistic figures of sports in outline. Several ways of doing it too, but all with a pleasing result. The circular base is cut in 3/16 in. wood and the oval upright in ¼ in. wood.

The sports figures can be cut from thin wood (1/16 in.) the ivory (cream) or xylonite (polished black) composition, sheet bakelite or similar compositions.

The background should contrast with the figure—polished black ground for ivory cut-out, etc. Ebony colour polish very suitable.

Line in the figure more, if you can draw, or leave in plain outline. Glue the overlay part on securely and in proper position. If a polished surface, scratch it to make the glue hold.

If you wish carve out the base to make stud tray.



MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are counted as one word. Postal Order and Stamps must accompany the order. Adverts will be inserted in the earliest issue. To sell anything except fretwork models or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

100 STAMPS all different, sent genuine applicants for approvals. Postage 2d.—**Errington Macquaire (0), 51 Atkins Road, London, S.W.12.**

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MIDGET ELECTRIC AERO MOTORS 8/6!! Masterpiece in Miniature. Weight only 50 grammes!! 1 1/2/4 1/2 volts. 2,000/4,000 R.P.M. Royal Blue Tubular Case. Diameter 24mm., length 30mm. Complete in Box with 3 midget 1/2oz. cells (operates from one or more) with instructions. Also suitable for Speed Boats. Enormous experimental field.—**Below.**

LARGE STUDENTS MICROSCOPES 7/9!! Compound Lenses. Magnification 200 diameters (equivalent 40,000 x area) Rack Pinion. Inclination Claw-Foot Stand with Mirror.—**Below.**

MIDGET TELESCOPES 1/3!! Open fountain size. 10 mile range. Triple brass sections. Bound in real hide. 2 for 2/—**Below.**

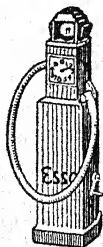
4-VOLT AC/DC ELECTRIC MOTORS 1/-!! 6,000 r.p.m. Complete kit of parts easily assembled, with illustrated instructions in box. 2 for 1/9.—**Below.**

ABOVE POST FREE. C.W.O., C.O.D. 1/- extra. Postage extra. J. K. M. Holmes, Scientific Instrument Dealer, Dept. H2, "Vizcaya," Wolfeleigh, Gosforth, Newcastle-on-Tyne.

POLISH OUTFIT 2/3; post 6d. Comprises three kinds of stain crystals, woodfiller, cotton-wool rubber, bottle of Hobbies "Lightning" polish, glasspaper and instructions.—**Hobbies Ltd., Dereham.**



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2/11
Postage 4d.



Petrol Pumps of Esso or Shell. Lights lamp when pumped 6 ins. high. Complete with battery inside.
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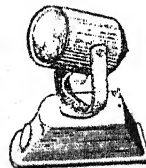
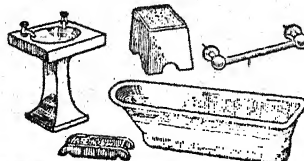
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Models..

BOYS..... Here's a chance to buy some fine electric working models. If you are making a Doll's House why not get the set of bathroom fittings in polished aluminium.

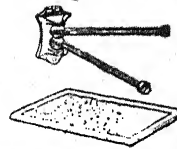
BATHROOM FITTINGS

Bath (4 1/2 ins. long) 1/3; Washbasin (2 1/2 ins. high) 1/6; Stool (1 1/2 ins. high) 9d.; Towel Ainer 6d. and 1/-; Mat 6d.; Fireside Set, 1/6. Post 2d. extra.

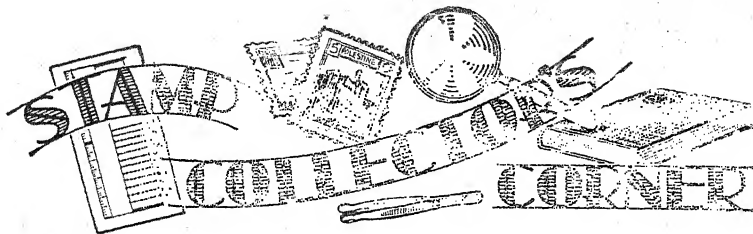


SEARCH-LIGHT

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Postage 6d.



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French Celebrities

FRANCE has issued a very large number of stamps lately which have had the portraits of various men. In some cases, these stamps have had the portrait of men of world-wide fame, and when this has been the case then it has been easy to write up the lives of these celebrities in such a



Pierre Loti

way that all who read will appreciate why they should appear on the stamps which go through the post.

The difficulty is now that there are a few which can hardly be termed world-famous, but as philatelists we are very liable to be asked who is this man who is portrayed on this stamp. And to answer that you do not know anything about him is rather weak.

So this time we have to consider a few names and faces which have appeared, and about which we may expect to be questioned.

The first illustration is of the charity stamp value, 50c. plus 20c. It shows a portrait of Pierre Loti, or at least, that is the name given on the stamp. Actually, it is only the pen name of the French Novelist Louis Marie Julien Viaud.

He was born at Rochefort, on Jan. 14th, 1850. In 1867 he entered the French Navy, and became a captain in 1906. In 1879 he produced his first tale, "Aziyade." It is a story of the Bosphorus, and it is the Bosphorus forming the view which appears on the left of the stamp.

In 1880 came "Rarahu," which was reprinted in 1882 as "Le Mariage de Loti," the story of an Englishman and a Tahitian girl. This work won for him instant popularity, but curiously enough

his books are lacking in much that goes to make up a plot.

In 1886 he wrote "Le Pecheur d'Islande." In 1923 he died on June 10th, having been a member of the French Academy since 1891.

Another Frenchman who has been similarly honoured is Leon Gambetta. He was born at Cahors on April 2nd, 1838, and he studied law at Paris. Turning to politics, he was elected to the Chamber of Deputies in 1869.

After the Emperor's surrender in 1870 at Sedan, he became Minister of the Interior and of War, in the Government of National Defence. He escaped from Paris in a balloon, and went to Tours where he did a great deal to arouse the French against the Germans.

He is regarded as one of the founders of the Republic, because through newspaper efforts he did so much to strengthen the constitution.

He was elected President of the Chamber in 1879, and was Premier from 1881 to 1882. An accidental wound from a pistol brought



Leon Gambetta

Jean Charcot

about his death in 1882; the last day of that year actually.

The third illustration shows another Frenchman who has earned the right to have his portrait on the postage stamps of his country. It is Jean Charcot, who captained the "Porquoi Pas" which was lost with all hands off Greenland last year.

Below the name is seen the inscription 'Société des Oeuvres de mer' and this informs us that the stamp is issued in aid of a

charity for merchant seamen. The premium of 35c. goes to this, the postal value being 65c.

Great Men on Stamps

IT is some little time since we considered some of the lives of the great men whose portraits appear on postage stamps. A year ago, July 20th, 1937, Guglielmo Marconi passed away.

Italy has honoured this great man with an issue of three stamps, 20, 50 and 1 lire 25 centesimi. The design is a very plain one, but the man portrayed was surely one of the most important men of the world.

He was born at Bologna on April 25th, 1874, and his mother was Irish. Marconi took out an English patent and made his first demonstrations from the G.P.O. St. Martins-le-Grand, London, in 1896. The next year he was invited by the Italian Government to superintend the erection of a land station which was able to communicate with Italian battle-ships. A company was also formed in England to take over his patents except in Italy.

In 1900 Marconi built a long-distance station in Cornwall which successfully sent messages to Newfoundland. He served in the Italian Army and Navy during the Great War.

He began experiments with the short waves which led to the 'beam' system of long distance and directed wireless transmission. He owned a yacht called the 'Electra,' and many of his experiments have been made from this.

In 1909 he was awarded the Nobel prize for Physics, and he was made a Senator in 1915 and a Marquess in 1929. Through his death a year ago science lost a splendid research student.

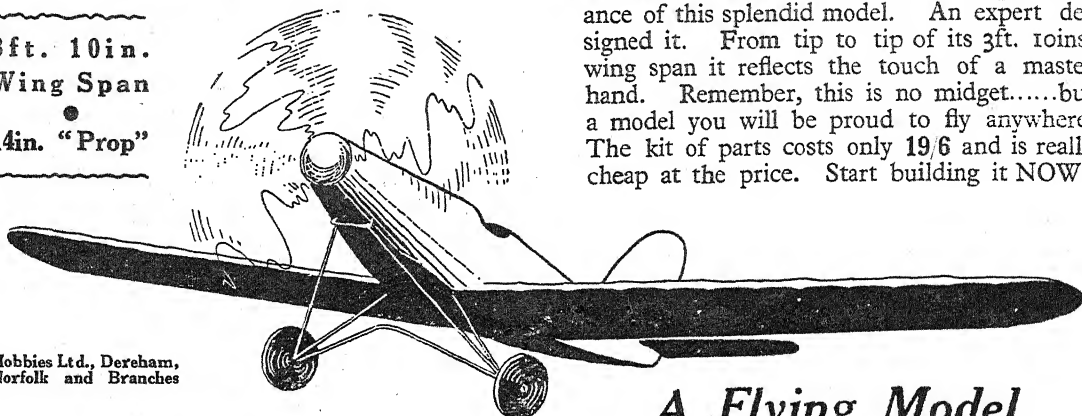


Count Marconi

Big bargains in Stamps in our Miscellaneous Adverts.

An Expert Designed It...

3ft. 10in.
Wing Span
14in. "Prop"



Hobbies Ltd., Dereham,
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You will be thrilled at the wonderful performance of this splendid model. An expert designed it. From tip to tip of its 3ft. 10ins. wing span it reflects the touch of a master hand. Remember, this is no midget.....but a model you will be proud to fly anywhere. The kit of parts costs only 19/6 and is really cheap at the price. Start building it NOW!

Build it from this Kit

The Kit includes 14in. Airscrew, balsa, spruce, birch, gears, piano wire, 1½ yds. Jap Silk "Durofix," 20yds. strip rubber, etc. and costs only 19/6; postage 6d. The design chart (No. 2121) and instructions cost a further 6d.

A Flying Model

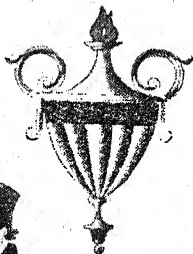
LOW-WING MONOPLANE

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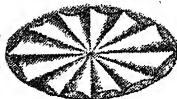


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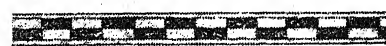
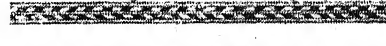
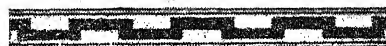
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DESIGN SHEETS.

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CONTRIBUTIONS.

The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

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OVERSEAS POSTAGE RATES

For the sake of those readers living abroad who order their goods from England, we give below the postal charges on parcels from some of the principal countries. If the weight of the goods are known, the amount shown in the proper column should be added to the remittance when the goods are ordered. A special leaflet giving particulars of postage in other countries is obtainable on request to the Export Dept., Hobbies Ltd., Dereham, Norfolk, England.

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An Old Favourite In a New Form . . .

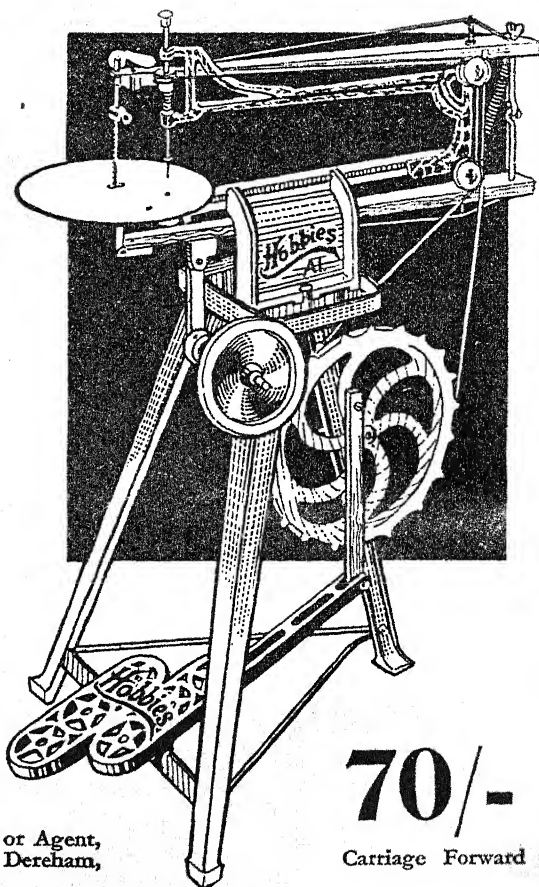
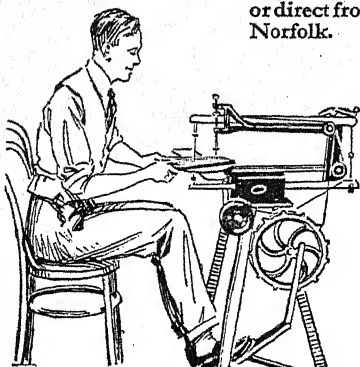
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Hitherto, you had to pay 90/- for a Fretmachine fitted with a Drilling Attachment. Now—with the introduction of this new A1—you can buy the world's most popular fretmachine, with a treadle drilling attachment, for only 70/-.

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HOBBIES A1 MACHINE With Drill

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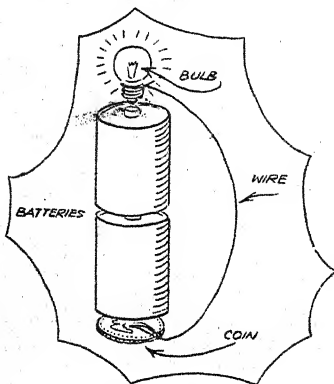
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For original Tips published the sender will receive 2 dozen Hobbies Fretsaw Blades. We cannot acknowledge all those received or guarantee to print them. Send to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

To Test Batteries

HERE is a novel way of testing batteries. All you need is a flash-light bulb, a coin with a hole punched in the centre, and a piece of wire about 6ins. long. First tie one end of the wire to the coin



then with the other end twist it around the bulb. It is now ready for use to test whether there is any light produced from batteries. How it is used is shown in the drawing.—(S. G. Tan, Singapore, S.S.)

Sea Shell Decoration

THE outside surfaces of the Plant Tub, in your issue of May 21st, may be easily and attractively decorated with sea shells. Just coat the surfaces with Hobbies Glue, and lay on the shells according to size and taste. The same could apply to the 'Window Boxes' of an earlier issue. Ordinary shells, picked up on visits to the seaside, thus serve a useful and artistic purpose.—(M. J. Walsh, Co. Galway).

Trick Photography

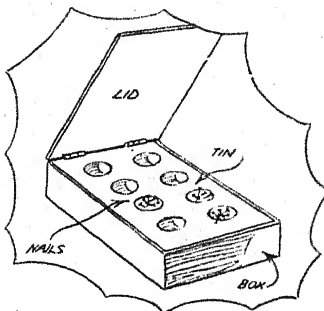
ENLARGE a picture of a fruit, e.g. Banana, cherry, apple, etc. Then take a picture of yourself but not enlarged. Then carefully cut out banana picture and paste next to the picture of yourself. Then take another photograph of it, and you will look smaller than a banana.—(L. Schamroth, Doornfontein, S. Africa).

Aquarium Cement

A GOOD cement for setting the glass sides in an aquarium is made of equal parts of finely powdered resin and litharge, worked into a smooth paste with boiled linseed oil. The grooves in the frame should be partly filled with the cement and when the glass has been inserted, a few small hardwood wedges should be pushed between the panes and the sides of the grooves in order to prevent movement of the glass when the tank is filled or emptied.—(V. Ruthensamy, Durban, S. Africa).

A Nail Box

THE flat tins with several compartments in them, which are sold in the shops for making mince-pies, etc., are excellent for keeping nails and screws



in. Having a rounded bottom is easy to slide a nail or screw out. The tin may be fitted in a shallow box and a lid fitted.—(B. Starling, Rogerstone).

Mudguard Badges

MEMBERS of the Hobbies League who cycle, will find this tip very useful. If you still have the booklet on how to join the "H.L." cut out the diamond badge on front and stick it on your back mudguard. Then varnish it over thinly. Do NOT let any water get on the varnish until it is quite dry or else it will go all lumpy. When finished, it looks very attractive.—(E. W. Kingston, Hull).

Marking Steel Tools

TAKE the tool which you require your name on, and the position you want your name. Place some melted beeswax, and, before it dries, write your name with a sharp piece of wood, so the name touches the metal. Then take some spirits of salts, pour it carefully so it runs in the place where the name was written on the wax. Then leave it for two hours, when you can remove the wax and your name is burnt on the tool.—(R. Monchory, Bulawayo).

Stamp Tip

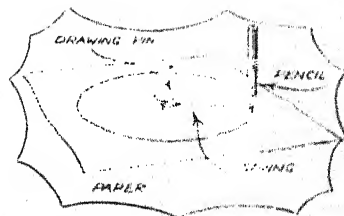
BEFORE putting mint stamps into an album, rub the back of them with french chalk. This will prevent them from sticking to the album page, and they can be removed when required.—(S. Curran, Co. Antrim).

Cutting Thin Plywood

WHEN working with 1/16in. plywood or any other thin wood I found that by filing the teeth of the sawblade to a mere ridgy cutting surface, I was able to reduce greatly the dangers of splitting or even breaking the thin sheets.—(P. Dyck, Winkler).

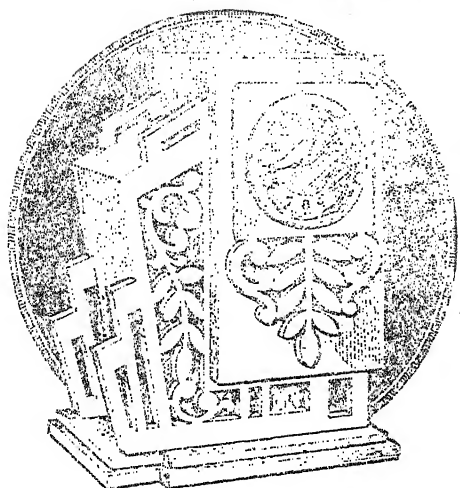
A Useful Compass

FIRST take a drawing pin, pencil and a length of string. Tie the string to the pencil about 1in. away from the point of the pencil. If the radius of your circle is an inch, measure an inch



along the string and dig the drawing pin into the middle. Pin to paper or wood, then draw round to full length of string as shown in the drawing.—(C. Harlock, Alfreton).

Our gift design is for this MODERN CLOCK



WE have this week a design for making a clock of very unusual type, and one which will appeal both for that reason and for its everyday usefulness. It is made in fretwood by means of a few fretwork tools, and utilising the design patterns printed full size on the actual sheet with this issue.

The completed clock stands 7½ ins. high, whilst its base is only 2½ ins. wide so it will stand on the most modern abbreviated mantel shelf if desired.

Simple Construction

Its construction is simple, particularly as it is built in three parts, then put together with glue and a few screws. It is in general, a two-part base on which is built a hollow fretted framework.

In one part of this framework comes a rectangle, and this in turn holds a complete box frame containing the clock movement itself. The actual parts are cut out in the usual way with the fretsaw, and none of them requires a great deal of detailed instruction.

The patterns of the fretted pieces can be pasted to the wood, but where plain rectangles only are concerned, it is just as easy to mark off the dimensions on to the actual board. This saves not only the pasting down, but the cleaning off with glasspaper afterwards. Then, too, you can save some of the cutting by utilising the straight edge of the board as one of the edges of the square parts concerned.

General Instructions

Note to get the grain in its proper direction in order to provide the greatest strength and reduce the likelihood of damage. The parts are cut and afterwards cleaned up with glasspaper so that no pattern remains on them. The back should also be given a light rubbing, and if necessary glasspaper drawn along sharp corners to take off any slight saw burr.

The actual fretwork is confined to the fancy

front of the lower case, and the thin overlay which is placed round the clock face itself. There are one or two openings in the back of the clock as well as the circle for the clock movement, but none of these are very laborious.

Points in Cutting

In cutting the fretted design itself be careful to keep the patterns balanced. That is, the leaves should appear symmetrical from the centre branch, and even the links which hold them to the scroll work should be of a standard length and not be carried so far that they are apt to weaken adjoining parts.

Before cleaning off the pattern, take notice of the various dotted lines printed thereon, because these are helpful in showing you the position of adjoining pieces.

Actually, these positions will have been cleaned away when you have rubbed the paper off, but if you have got a grasp of the construction of the work, then that is sufficient. Or, you can mark on the back of the wood lightly in pencil, the positions indicated.

Position of Parts

It must be remembered in this connection, that certain parts overlap others and some project. For instance, the two bases are level with each other on the back edge, but the lower one projects on three sides at the front and ends.

The same applies to the clock case itself, which is the box stood in the right angle of the lower case. This clock carcass is glued to the framework with

MATERIALS SUPPLIED

Fretwood.—For making this Clock we supply a parcel of selected whitewood, 1/5 (post free 1/10).
Fittings.—Clock movement (No. 5502) 5/3, or a cheaper movement (No. 5506) 3/9. Sufficient linen cloth for backing 2d. Postage 3d.
Postage on wood and clock when sent together, 6d.

the back edge flush, and it will be found then that the front projects in an attractive manner over the fretted front itself.

Now let us go ahead with the actual construction. This can be undertaken as one proceeds so you can cut out the whole of the parts then put them all together at once.

Better, however, to do it a little at a time, as this will allow the glue to set whilst you are preparing and cleaning up the other parts.

The base, as has been mentioned, consists of two parts glued together, but before doing this it is as well to erect the fretted casing upon the upper base. Get out the fretted front and the more

solid back of the lower case, then fit and glue between them the sloping side A, the top B, and the spacing piece C. The drawing at Fig. 1 shows the position of these quite clearly.

Back the Fretwork

Note that two edges of the top (B) will have to be chamfered to allow them to be in line with the right angle open side and the sloping outer side A. Get a nice fit here, and glue these parts between to make a rigid framework.

The fretting in this part should be backed up now with linen cloth or some fancy material to

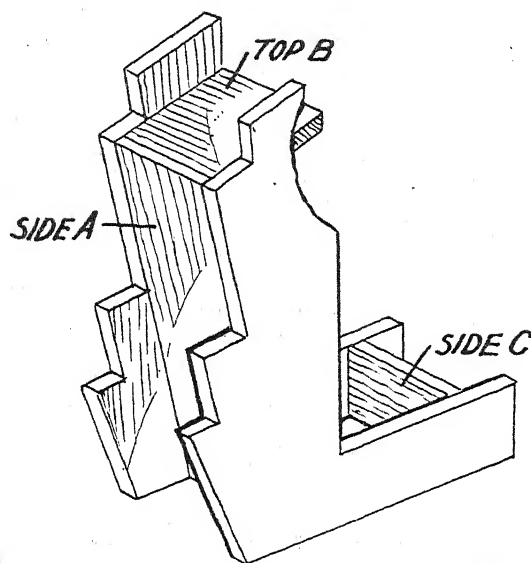


Fig. 1—A cutaway view of construction with frets omitted

prevent dust accumulating inside. Then the whole carcase can be glued to the upper base standing centrally between the ends and $3/16$ in. inwards from the back.

You can, if you wish, strengthen with screws from underneath, but they must, of course, be sunk well into the wood to allow the lower base to be glued on flat.

The Clock Holder

Next pass to the construction of the clock case itself. This is a plain box formation consisting of two sides G, between which go the top and bottom E and F. All are glued behind the front, a rubbing of glasspaper over the edges hiding the joint as much as possible. It is essential to get perfectly straight edges on all these parts or they will not bed together flat and strong when glued.

Have the back (H) cut ready when you are gluing up the front and sides, because this can be put in place at the same time and will serve to make the whole thing more rigid. Notice that

this back is actually a little smaller than the front because it fits inside the framework.

Its actual position is shown by the dotted lines on the pattern of the side. The back is glued inwards from the outer edge, and must be placed in this position to allow the clock movement to fit in snugly and accurately.

Stiffening the Back

Get this back upright, and cut it so it beds nicely between the four sides. If it is at all inclined to be loose, then a good plan is to put blocking pieces round the inside of the case itself and allow the back to be glued upon them also.

A detail showing the position of the back and these blocking pieces is given at Fig. 2. It is not advisable to add screws as they will be obvious on the outside of the case.

On the front of the case itself is the overlay in lin. wood and the large circular opening in this is of the same diameter as that in the front itself. Test this out before cutting, and also prove that the clock movement will pass through the circle comfortably but not too loosely. The overlay is glued in place on the front.

Fitting Together

The completed clock case is now ready for gluing in position in the right angle of the main framework, and we have said before that it is glued on flush at the back and projecting at the front.

If you deem it necessary you can add a little strip as a floor between the two upright pieces of the lower case.

This will provide a greater surface for the glue when the case is fixed in position.

The clock is suitable to be built in any fretwood, and we are supplying a parcel which contains whitewood with nicely grained and planed surface of the necessary dimensions for all parts required.

In addition, too, a suitable clock movement is obtainable quite cheaply and this fits into the design well.

If cut in whitewood there is no need to apply any further finish, but if fancy boards of mahogany or oak or satin walnut are used, then a coat of stain and polish can be applied.

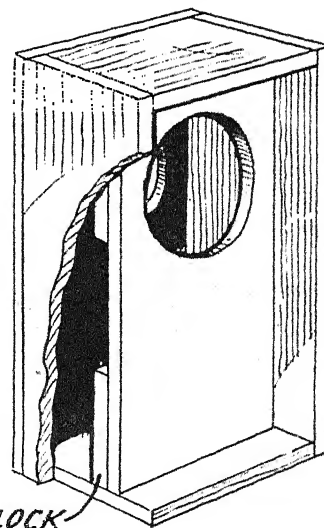


Fig. 2—The clock case and partition

**Special Glasgow Empire Exhibition
Souvenir design with next week's issue**

Particulars and patterns for another MINIATURE MODEL PLANE

IT was in the Schneider Trophy contests that streamlining was perhaps seriously taken into account by designers. Anyhow the machines were cleaner in appearance than most at that time. A model of the Supermarine S 6B will be the subject of this article and a small replica can be built from these instructions and the drawings full size on page 479.

A piece of straight-grained wood $4\frac{1}{2}$ ins. by $\frac{1}{2}$ in. by $\frac{1}{4}$ in. will be needed for the fuselage. Square up this if necessary and then trace or prick off the plan on to it. With a sharp chisel remove the waste wood. Lay out the side elevation, on both sides, taking care to keep everything square.

Fuselage Shape

When laying out the side elevation it will be found most convenient to ignore the head rest, fin and the fairing in front of the windshield; the fuselage will then have the appearance of a normal machine.

Shape the block to the outline and round off the corners until the fuselage assumes a cigar shape. The recesses for the wing and tailplane can now be cut out, that for the wing is $1\frac{1}{2}$ ins. from the nose and is $\frac{1}{2}$ in. wide and $\frac{1}{4}$ in. deep while that for the tailplane is cut down a bare $\frac{1}{4}$ in. at the front and is cut so that it is level with the circular nose.

Engine Blocks

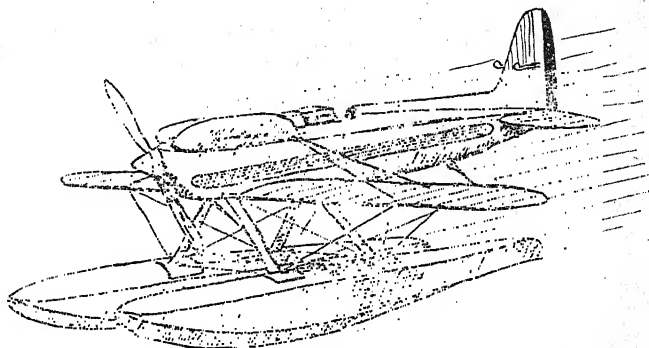
Blocks for the engines can be cut $1\frac{1}{2}$ ins. long and $\frac{1}{2}$ in. square. These are fitted to the shape of the nose, after which they can be cut to shape. The shape is not quite semi-circular, but very nearly so. When finally shaped they can be glued in place.

For the head rest and tail fin a piece of fine grained wood is required $2\frac{1}{2}$ ins. long, $1\frac{1}{2}$ ins. deep and $\frac{1}{4}$ in. thick. The thickness at the cockpit can be marked at one end and the thickness of the

rudder marked at the other and the whole trimmed down to the wedge shape.

It will be found easier to trim the wedge shape before shaping the rudder, as there will be less likelihood of the rudder splitting off. When the rudder is cut out to shape, the bottom edge can be shaped to fit the fuselage, taking care the top edge of the head rest does not tilt towards the tail.

The tail plane is cut to shape from a piece of thin fretwood and is cambered top and bottom.



Model of the Supermarine S 6B

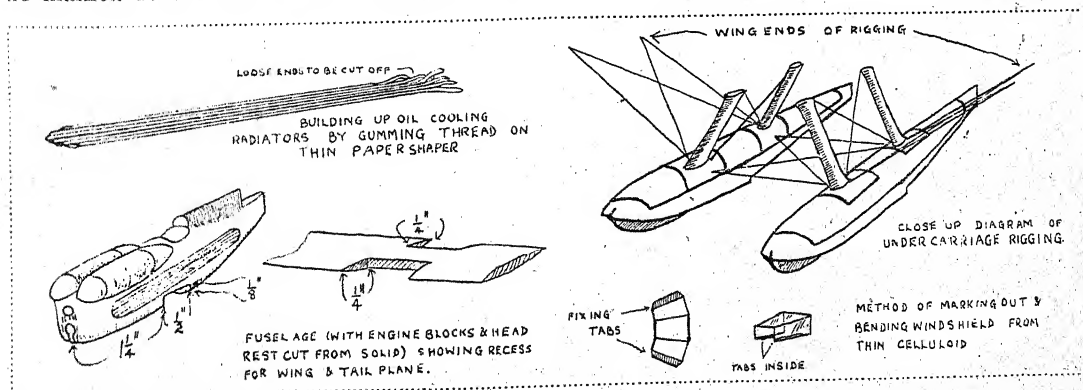
The elevators are marked with a fine knife edged file or with an awl. When this is finished both the tailplane and the rudder can be fitted in place.

The Floats

The floats are cut from a piece of wood $4\frac{1}{2}$ ins. long and $\frac{1}{2}$ in. square. These are marked out and shaped in the same way as the fuselage. The main thing is to get both floats identical. A round file will be found very useful for the underside of these owing to the concave surfaces.

When the floats and fuselage are completed to the satisfaction of the builder the undercarriage struts can be filed from a piece of hardwood.

Filing is the best way to produce satisfactory struts as there is less fairing to do with plastic wood



than would be the case if the struts were shaped straight off with a knife or chisel.

It might be worth noting here that the writer has seen a model of this machine in which the struts were filed from fine oval nails. Short stubs were filed for sticking in the floats and the fuselage.

Wings and Ailerons

The wing is cut from a piece of thin fretwood and is cambered on the top and the underside. In any case of doubt as to the correct thickness of wings of these models it will always be safest to make them thinner, rather than thicker. Over-scale parts are more noticeable than undersize ones.

The ailerons are scribed on the wings as were the elevators on the tailplane. The wing at the centre is cut out to a depth of $\frac{1}{4}$ in. at the leading and trailing edges so that it will fit in the recess cut for it. The wing can be glued in place and any gaps filled with plastic wood.

The Engine Parts

Before fitting the floats and their rigging it will be best to fix the oil ducts and radiators on the fuselage. These can be marked out on thin paper and then lengths of thread are glued along the length, care being taken to keep them parallel to the edge of the paper.

When the gum is dry the loose ends are cut off at the end of the paper. The oil duct is then glued along the underside of the fuselage and the radiators along the sides.

Short lengths of pins are pushed into the end of the struts if they are of wood and the projecting end is pushed into holes made in the floats and fuselage.

Assembly

It will be most convenient to assemble the parts relying on these pins alone then adjust everything correctly. Dismantle and glue the ends of the struts and re-assemble, then leave the whole to dry.

While this is happening, the wind shield can be cut from thin celluloid in the manner shown in the sketch. On the actual machine there is a

framework and on the model this is simulated by a framework of paint.

A couple of coats of paint will give it the appearance of quite a solid framework.

The windshield is stuck onto the fuselage just in front of the cockpit. The open forward end of this shield is streamlined by a cowling which is shaped to fit tight against it and to drop between the engine cowlings.

The Prop

The propeller is cut from a piece of hardwood or shaped from a piece of thick sheet lead. It does not matter which of these materials is used; either will look attractive when painted aluminium.

The fuselage and lower parts of the floats are finished in a dull royal blue. The top of the fuselage is white, which starts at the nose, covers the engines and finishes at the tail in a point. The top of the floats and the struts are finished white. The wings are silver, the only splash of colour being the patch of red on the tail.

In painting this model care must be taken to use the finest paint obtainable as it will not be possible to rub any of it down. Hobbies enamel in tins at 2½d. each is quite suitable.

When the painting is finished and dry, the bob-weights for balancing the ailerons and the rudder surfaces can be made of small pins pushed into the various surfaces.

Rigging

The rigging is undertaken last of all and is done with fine thread. It will be best to make fine holes at the various points where rigging is fixed and thread the various threads right through in as long lengths as possible.

For example, one thread could go from one engine block through the wing, on through the floats and up through the wing to finish at the other engine block. In this manner there will be less ends to stick and thus less chance of spoiling the paint work in doing so.

When finished this model will make an attractive ornament.

A Complete Doll's House from our Design

We always like to have photographs of work which incorporates useful suggestions for other readers. Here is one. Notice how complete and finished is this model, made by Mr. Akester of Cottingham, Nr. Hull. It is our ever-popular 186 Special Doll's House, and it was, he tells us, cut out entirely with one sawblade. Of course, it was Hobbies! But notice how the details have been added—curtains, flowers, shrubs and even a little canopy table and figures sunning themselves on the garage roof! We wonder how they were supposed to get there?



Give the birds a treat in this simple BIRD BATH

IF you have a fancy for a really imposing Bird Bath for your garden, here is one you can make for a few shillings. The only materials needed are $\frac{1}{2}$ cwt. of Portland Cement, about 2 bushels of fine washed sand, a little grease (some cheap margarine will do) and a $\frac{1}{4}$ in. brass screw.

You also need enough cheap $\frac{1}{2}$ in. timber to make four boxes to the following measurements: (1) 15 ins. by 15 ins. by 4 $\frac{1}{2}$ ins.; (2) 13 ins. by 13 ins. by 2 $\frac{1}{2}$ ins.; (3) 6 ins. by 6 ins. by 17 ins.; (4) 18 ins. by 18 ins. by 3 ins. These are the measurements of the insides of the frames, which should have neither top nor bottom.

Grease them lightly and lay them out on a flat surface which has also been lightly greased—an old piece of lino is the ideal thing.

Cement Mixing

Then mix your cement and sand to the proportions of three parts of sand to one part of cement. Mix the two well together before adding any water, and be sure that it is thoroughly mixed with the water when you add it. Fill all the boxes to overflowing and press the material well down.

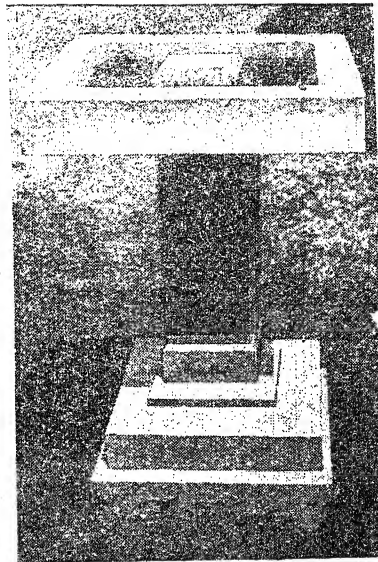
Level off the tops by drawing a straight-edged piece of wood across them, using the edges of the boxes as the level. If there are any holes or bad places left after this, fill them up and repeat the process until you have a level surface.

It will help if you purchase or make yourself a float. This is simply a piece of wood 6 ins. by 3 ins. by $\frac{1}{2}$ in., with another piece screwed on to form a handle (Fig. 1). When the material has set a little you can work up a nice surface by rubbing the float over it with a light circular motion.

The Upright Piping

Next find the centre of Block 1 and press the gas barrel in 3 ins., making sure it is upright. Then make a hole right through Block 2 large enough to

A simple and inexpensive piece of cement work to make



allow the gas barrel to pass through. And in the centre of one end of Block 3 make a hole of the same diameter and not less than 1 ins. deep.

Now leave all the blocks to set a little. They should be about as firm as fresh cheese before you touch them again. When they are, turn Block 3 over gently and bury the brass screw in the centre of the other end so it projects 1 $\frac{1}{2}$ ins.

Fix Well

Soften the material round this by adding a little water and working up with the point of a trowel. Then put a little pile of cement and sand right over the screw. Be sure that this little pile of material is well stuck to the main block where you

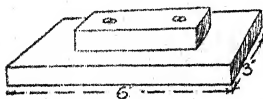
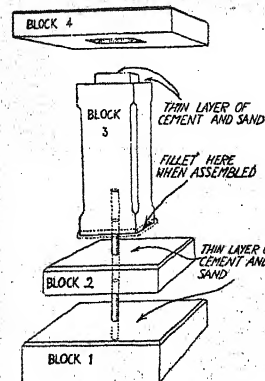
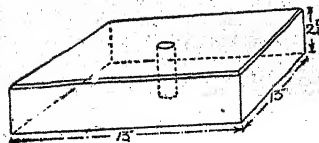
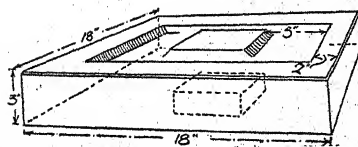
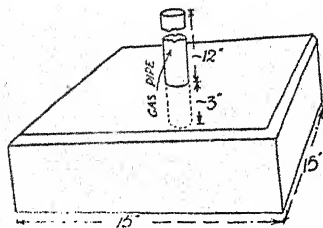


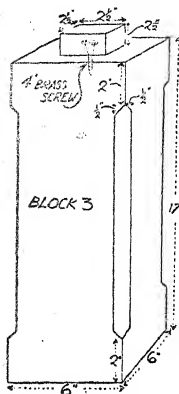
Fig. 1—A Home-made float



Details of the various blocks and their assembly into the complete bath

have softened it. When it sets, cut it with a trowel to measure 2½ ins. by 2½ ins. by 2 ins. Now in the centre of Block 4 cut a hole in to which this projection just fits.

Turn Block 4 over gently and mark a square 2 ins. from the outside edge, and another ½ ins. inside of that. Between these two squares scrape a trough about 1 in. deep. Level the trough with a straight-edge, and smooth it with a trowel. This trough has to hold water and you must get as glassy a surface as possible.



The upright pedestal block

Shaped Edges

Then leave all four blocks to set yet a little harder, but still not completely hard. When the blocks are firm enough, prize off the boxes gently. Then chamfer the edges of the blocks as indicated by the diagrams. The best way to do this is to

scrape the edges with a trowel, and smooth with a float.

If, when the boxes are off, you are not satisfied with the surface of the blocks, you can fill in any bad places that are left and work up a good stone-like appearance by splashing the blocks with water and giving them a good rub with the float, keeping to the circular motion as much as possible. Now you can leave the job to set really hard.

Assembling

When assembling, cut a square hole in the lawn and lay Block 1 in. Add Blocks 2, 3 and 4 as indicated, by fixing with a small quantity of very wet cement and sand between the blocks. Also, a small fillet round the base of Block 3 will serve to strengthen the job.

It is advisable to give the whole thing a thorough soaking with water every day for about a week, as this adds to the durability of the cement and sand.

When the job is complete you will find that you have a garden ornament superior to anything you could buy for much more than this one will cost you.

"Dive" into this easy SWIMMING CROSSWORD SQUARE!



IF your heart is "sinking" over some affair, let the solving of this X-word "buoy" it up again. None of the clues should make your head "swim" or give you the jitters.

Do you know much about Swimming? Even if you don't, there is no reason why you shouldn't attempt the puzzle. Everyday words are incorporated. For example, Clue No. 9 Down is: "This board aids one in diving." There is only one sort of board to enable one to dive and doubtless the correct answer is in your mind already.

So "wade into" the puzzle and check up on the solution next week. No prizes are given—the square is for your own amusement and interest.

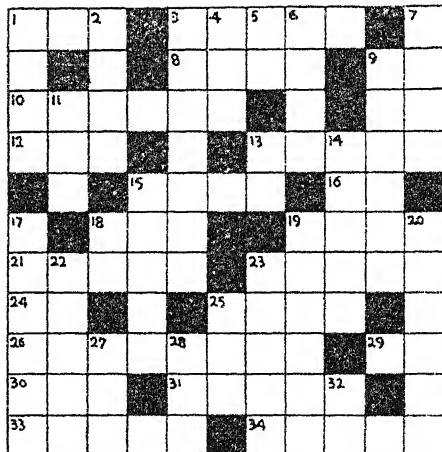
- CLUES DOWN**
1. A person who is "sinking" of this when it is receding.
 2. It's nice bathing in one in the country.
 3. Swimmers do it rhythmically with certain strokes.
 4. What we gasp for when in difficulties.
 5. First and last letters of "toss."
 6. It's hard for a learner to keep his one above the water.
 7. We like to see expert swimmers make a high one.
 9. This board aids one in diving.
 11. The copulative which joins words and sentences.
 13. A nautical way of saying "yes."
 14. One of the southern constellations.
 15. Many lives are by good swimmers.
 17. The water at Margate sometimes feels like this ocean.
 18. To exist.
 19. "Transept" doubly curtailed.
 20. In shark-infested waters, some swimmers do this from death by a thin margin.
 22. It is this to go swimming on a full stomach.

23. You can do this on the water on your back.
25. You'll find one in a church.
27. Remove first and last letters from "lunar."
28. A break in a mountain ridge.
32. Home Rule (abbr.)

25. It is a good one not to swim long distances alone.
26. A style of swimming.
29. South America (abbr.)
30. "Zion" beheaded.
31. To lie on a level with the water.
33. An attack of this in the water is sometimes fatal.
34. Coast guards are this with boobyard swimmers.

CLUES ACROSS

1. This part of the big toe is sometimes used as a thermometer.
3. Swimmers like to go for one at the sea-side.
8. The palms extended upwards will cause one to do this under water.
9. Spanish for "yes."
10. This always lurks when far out from the shore.
12. The conclusion of a perfect day.
13. Many enthusiasts feel this way about swimming.
15. It doesn't take one to do this too long in the water. First two letters of "ring."
16. An ejaculation of contempt or rage.
19. The point of an antler.
21. The female of the ruff.
23. These amphibious little creatures taught man how to swim.
24. "Cry" curtailed.



Solution Next Week. Another "hobby" Crossword shortly

Improve your model railway with DUMMY FRONTAGES

LACK of space is generally the main trouble in laying out a Gauge O model railway in an ordinary size room. The apparent size of a system can be improved, however, by the careful use of several small illusions. One of the most interesting is that of dummy frontages.

Thus, for example, a terminal station in which the tracks finish dead against a wall, can be made to look like a through station by, instead of having buffers at the ends of the lines covering each with a dummy tunnel mouth. The impression given is then that the track which can be seen is but part of a greater system which extends away beyond the tunnels.

A Good Illusion

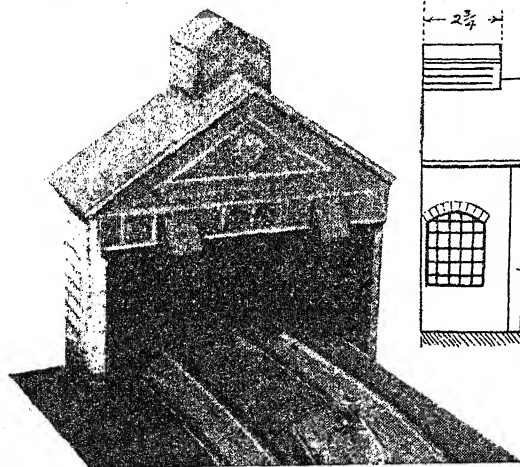
A dummy mouth need only be a few inches deep to give a good illusion of an actual tunnel, but it can always be made long enough to hold an engine with advantage. It is then of use in actual running or when demonstrating the track to visitors. A locomotive can be made to disappear into, or appear from the "tunnel" as desired.

It is on engine roads, which generally come against a wall, that the dummy frontage can perhaps be used to the best and most effective advantage. In this case the dummy front is a locomotive shed to cover one, two (or more tracks).

The photograph shows such a front filled in the writer's line.

Close to the Wall

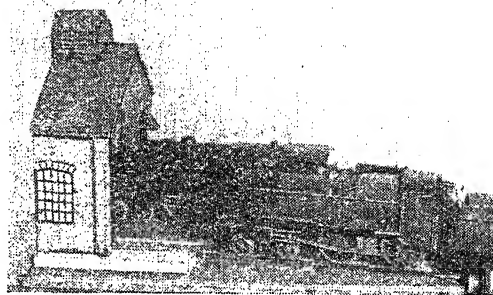
The tracks (leading from a turntable) are covered and the "part-shed" is $3\frac{1}{2}$ ins. deep. It tones and fits to the wall rather better than the photograph suggests and gives the perfect illusion that the tracks continue on into the wall.



A front view of the completed frontage

This is a practice, which incidentally, is carried out in several real engine sheds where the engines have perforce to finish against sheer rock faces. Engines standing with their "noses" in the shed have a very natural "part in, part out" appearance, which looks very well.

The model shed shown is made up of two side walls of $\frac{3}{16}$ in. wood, $3\frac{1}{2}$ ins. wide by $5\frac{1}{2}$ ins. high fastened by sprigs to a shape of card cut to the

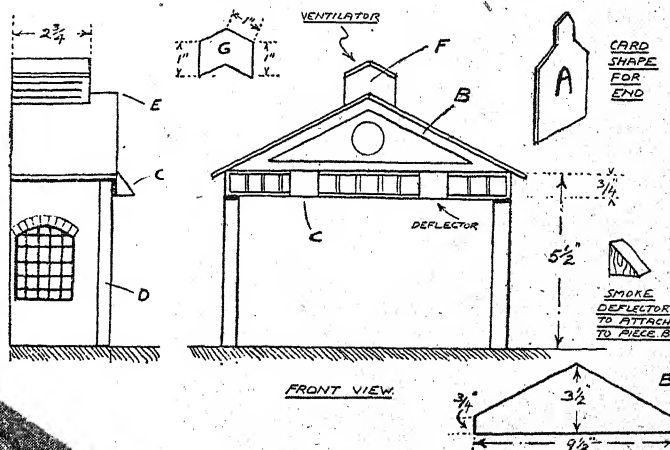


A side view of a realistic dummy

full cross-section of the shed as (A). Two strips of wood (D) $\frac{1}{4}$ in. by $\frac{1}{2}$ in. are secured down the outer front edges to look like buttresses.

Across the top of the outer edge of walls the piece (B) is secured, its dimensions being $9\frac{1}{2}$ ins. wide, $\frac{3}{4}$ in. deep at the sides and $3\frac{1}{2}$ ins. to the highest point. This gives a width sufficient for two sets of rails and a nice slope to the roof.

At a space of $1\frac{1}{2}$ ins. from either side triangular pieces of wood (C) $\frac{1}{4}$ in. by $\frac{1}{2}$ in. and $\frac{3}{4}$ in. wide are secured, to look like the smoke deflectors found on actual shed fronts.



When (B) is in position, the top of the walls and buttresses are sloped to agree with the upper edges of (B), and the roof is put on. This is two rectangles of $\frac{3}{16}$ in. plywood, $5\frac{1}{2}$ ins. by $3\frac{1}{2}$ ins. bevelled at their top edges (E) to join nicely.

They are fastened down by small sprigs going through to the top of the walls and to the upper edges of (B), also with more sprigs coming through horizontally from the back card (A). When secured in position they make the whole structure very solid and rigid and overhang the wall slightly thus giving a neat appearance.

Ventilator Extension

When all this is done the ventilation extension (F) is fitted. This is made throughout of $\frac{3}{16}$ in. material and is built up of a front as (E) in. high and in. sloping sides. Get the exact angle from the roof already made, making a card template first which can be cut down by degrees till the exact fit is obtained. The wood front can then be made accurately from this.

The ventilator does not come right to the front edge of the shed, being only $2\frac{1}{2}$ ins. back to front; thus the walls are 2ins. by in. and the two rectangles that go to make the roof are 2ins. by $1\frac{1}{2}$ ins. Again bevel the top edge so that they meet accurately.

Fixing with Sprigs

This extra structure is held to the main building by sprigs up from the inside of the roof and with a sprig or two again horizontally in from the back

card (A), the top of which agrees with the ventilator's shape.

The structure is now complete from the woodworker's point of view and we come to the "finish."

Round each wall and buttress glue carefully standard model brick-paper (obtainable at Hobbies, Ltd.), and then draw on two rectangles of card the windows as shown, 1ins. wide and $2\frac{1}{2}$ ins. high. The tops are curved and show supporting arch bricks.

Colouring the Model

These loco shed windows are usually made up of a considerable number of panes, but the exact number does not really matter.

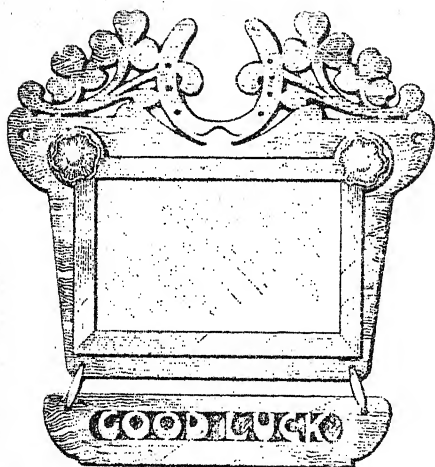
Mark the windows in indian ink and glue the finished cards well down to the brick paper; the bottoms of the card windows should come 1ins. from the ground.

The front of the shed (B) is finished in brown, the design as indicated in the front elevation being put on with yellow or lighter brown paint.

The sides of the ventilator are finished in the brown and horizontal lines are drawn along the sides in the yellow to represent the usual sloping slats.

Black is used for the roof of this shed and also the top of the ventilator; also the inside of the back card (A) is finished in black.

There is no reason why a dummy front should not be made to cover more than two tracks, but if too wide the effect is rather lost as the back of the shed is too easily seen.



See full
size parts
on centre
pages

A SIMPLE FRETWORK "GOOD-LUCK" FRAME

correct size. The dotted lines round this opening in the frame indicate the position of the parts forming the overlay rim.

These four pieces are cut with their ends at an angle of 45 degrees so when put together they make a perfect rectangle. On the two upper corners of each are to be added the little embossed metal ornaments (No. 5235) supplied by Hobbies.

Fitting the Glass

The glass, of course, is placed behind the glued overlay strips with the picture behind that. Then a piece of thin wood or folded brown paper is added to fill up the recess and a larger piece of brown paper glued to the back to hold all in place.

The little "Good Luck" hanger is also cut from a piece of $\frac{3}{16}$ in. wood and is then backed up by a piece of tinsel paper, fancy material or even another piece of wood.

It is afterwards hung through the small corners in the ends by means of narrow ribbon or fine string of some kind. The two holes at the top of the frame provide suitable apertures for a nail for hanging.

THE patterns for the "Good Luck" frame shown on the centre pages of this issue make up into quite an attractive piece of work. They are executed from half a dozen pieces of board, the main parts of which are $\frac{3}{16}$ in. thick with $\frac{1}{8}$ in. wood for the overlays.

Cut out the patterns and paste them down to the wood, then cut out carefully the various frets and outlines shown. Leave the opening for the glass until last, and lay it in place to ensure the

Learn how you can get better HOLIDAY SNAPS

IT should be the aim of each one of us to endeavour to take and make better pictures each time we take the camera out. We should learn something each time we expose a spool of film and see the results.

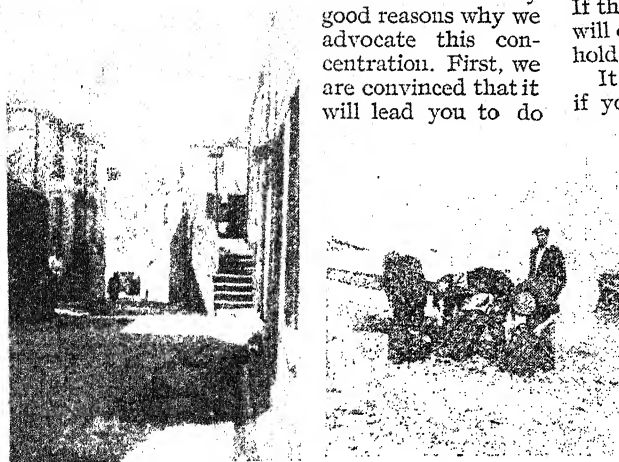
Those who have followed these photographic articles as they have appeared have doubtless recognised that their aim has been to encourage you to do, not necessarily more work, but better work, knowing that if we can help you to improve it, you will become keener and more enthusiastic in the hobby. It is to this end we are going to say something about holiday photography in this issue.

Look for Pictures

Instead of snapping everything as it comes along—beach scenes, landscapes, boats, farms, etc.—make up your mind to go in for a certain type of subject. It can be anything for which you really have a fancy. For instance, Trees, Horses, Street Scenes, Fishermen or Natives, Seascapes or Landscapes any of these offer splendid opportunities for really good work.

They are just as reminiscent of your holidays as a whole collection of snaps taken one after the other without order or much thought being given to them.

There are two very good reasons why we advocate this concentration. First, we are convinced that it will lead you to do



Two really picturesque snaps worth studying

better photography because you will have a definite purpose in making the exposure. If the result does not come up to your expectation, you will very closely study it to see why and where you have faulted.

So you will accumulate knowledge that is going to be of value to you in the future. Further, you will be taking scenes which have a special

attraction for you, otherwise you would not have selected that subject for your specialising.

The second reason is that most competitions and exhibitions are divided into groups of subjects to give those competitors who are specialists the chance to display their abilities, and to encourage beginners to be selective in their work.

Quaint Spot

Many may be going to spend holidays in one or other of the quaint little places around our coast, spots like St. Ives, Cromer or Whitby. Almost every street is an 'old fashioned street' full of picturesque corners and houses.

If you are staying a few days in such a place, make a point of studying the lighting in each of the streets. Maybe it is more picturesque when the morning sun is on it, than when the afternoon sun is shining.

It must be remembered that for such subjects the lighting is everything. If the street is narrow, then midday lighting will probably be the best, because the shadows will not be too dominating.

Have a Fixed Camera

It is, however, advisable to have a tripod for this work, because you may have to wait for people to move out of the picture before you can take it. If they see your camera fixed up and waiting, they will often pass on quicker than if they see you just holding a camera in your hand.

It is also useful, because of the heavy shadows, if you have to give a time exposure. Exposure is not easy to calculate for these subjects. Those of you who have a meter will soon realise what an advantage it is. But if you have to guess, then you must always remember that the rule is to expose for the shadows, and the highlights will look after themselves.

Note on Street Scenes

Street scenes are, in the majority of instances, upright views and should be treated as such. Avoid figures in them if you can, unless they are particularly interesting ones and are part of the scene. By this is meant if they are "natives" and look like them.

When developing these snaps be careful not to over develop. Aim for correct timing, for it is most important where there are such heavy contrasts in the actual picture.

Figure Studies form a very interesting and specialised work, although not so easy as it sounds. If you are out for real 'natives' then you have got to be patient and 'wait for it.' Find out

stand where these folk frequent for their day's gossip or work and be on the spot.

They must not know that you are taking them for anything like a pose spoils the effect you are trying to get. Groups or single figures can only be got at odd moments.

Lighting makes a Difference

Here again watch the lighting and, if you are able to do so, focus the camera so the background is slightly out of focus. This will mean that the figure or figures are outstanding and that there is no second point of interest.

Another very good subject is Trees. There are so many varieties and their surroundings vary so much that it is quite easy to make a collection of snaps many of which can be first class pictorially. Shape, light, shade and shadows fill a very

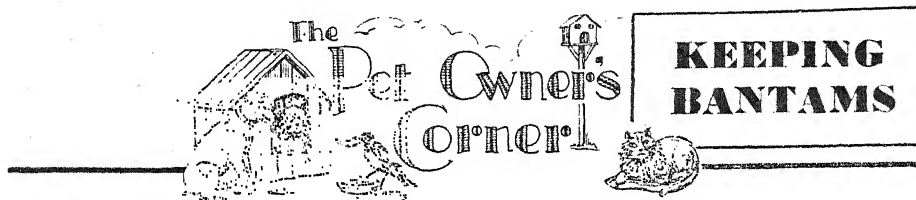
important part and again care must be given to see that, as nearly as is possible, correct exposure is calculated.

Other Subjects

Other subjects of a pictorial nature are Churches and their Porches, Old Thatched Cottages. Remember in the latter to include a piece of the front garden for it does make such a difference if you do.

If you are hiking or cycling and come to a farm, do not hurry by it for there are usually one or two of the hands at work and many a good picture has been made in this way.

Old Country Inns are 'bits of old England' some of them make charming snaps, especially if there happens to be one or two local figures in front.



MANY of you, no doubt, keep rabbits, guinea pigs or fancy mice, which are nice pets, but how many of you keep bantams?

Bantams make very little noise, for the bantam hen seldom cackles after laying an egg. Also a bantam can lay as many eggs as a large fowl, and the average weight of an egg is $1\frac{1}{2}$ ounces. Roughly speaking, three bantam eggs equal two hen eggs.

They eat about a third of the food consumed by large fowls, and can lay as many eggs. They take up very little room, and can be kept to advantage in either a small garden or a back yard.

You can buy a small house at a reasonable price, or you can easily make one yourself, out of a bacon box, or several sugar boxes, felted over.

Run and Shed

A wire run should be made for them if kept in a garden; a scratching shed if you keep them in a back yard. The latter should be roofed over, and three sides boarded up. A shutter, which can be raised in bad weather, is made for the open wire netting front.

The floor should be of boards, and plenty of litter such as chaff or peat moss, provided for the birds to scratch in. Always scatter corn in the litter to keep the birds occupied and exercised.

Sawdust is a good litter for the floor of the house, being sanitary and cheap.

Suitable Food

For food, give your birds, a little mash once a day, made up of house scraps if available, dried off with sharps (officially known as "weatings.") A simple alternative mash can be made up with sharps, broad bran, and a little maize meal.

Biscuit meal, scalded, and dried off with sharps, is a welcome change to mash, because like ourselves bantams tire of the same food always.

Green food should be given for the mid-day meal, with sound wheat for the other meal of the day. A little cracked maize may be added in Winter, it being a warming food.

Plenty of clean water, grit and oyster shell are essential to your birds. Scald and scour your water pots weekly.

Different Breeds

The number of breeds of bantams is almost as many as in large fowls. These breeds are divided into two classes—game bantams (which are hard feathered) and variety bantams (which are soft feathered).

The latter class includes such breeds as gold and silver Sebrights, Polands, Rosecombs, Pekins and utility breeds such as Wyandottes, Rhode Island Reds, Leghorns and Minorcas, these utility breeds being bantamised editions of the well known breed of poultry.

It is with one of these utility breeds you should start. They are hardy, and lay well, and you will gain experience in proper management.

Later, you can go in for either game bantams, or a variety breed such as Sebrights or Rosecombs.

Hens Only

If there is an objection to you keeping a bantam cock, because of its crowing—just keep the hens which make practically no noise at all. You need only keep a cock if you intend to breed; the hens will lay as well without one.

Bantams are intelligent, and fascinating little birds, which become very tame. Unlike large fowls, many of which are rather stupid, they seem to possess concentrated intelligence.

One more point. If you live in a town, choose a dark coloured breed, as they do not show the dirt, and need not be washed for shows.

A real piece of fretwork

ORIENTAL STAND

SO popular was our design for an Oriental Occasional Table published some few weeks ago, that we venture to put forward another design similar in style.

This time it is for the low flower stand shown in the sketch on this page, and we believe, by its attractiveness, that it will be very popular with our fret cutters.

The article consists of a low oblong shaped table about 17ins. long by 13ins. and 8½ins. high, on the top of which is built another smaller oblong table supported by shaped ends and a front all in the popular Oriental style of decoration.

The whole would make a charming stand for a bowl of roses and a vase or two of long-stemmed flowers or leaves.

Easy Cornering

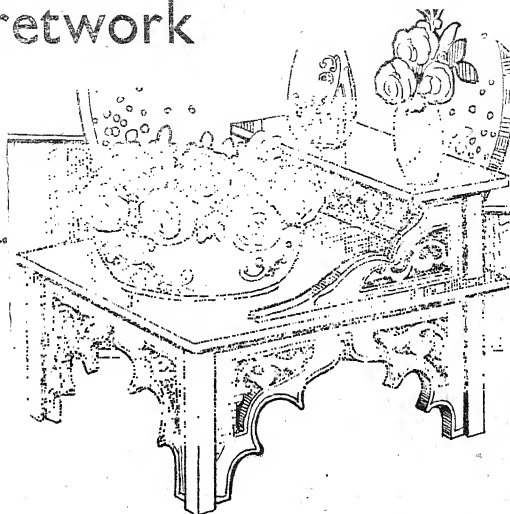
At Fig. 1 is shewn a side view and an end view of the stand, and it will be noted that the fretted panels which go to make it up, are all held in square grooved corner moulding making for simplicity of construction and solidity of appearance.

This moulding is Hobbies No. 38, and it can be got in either oak or mahogany, and as it is suggested that the whole thing be painted, it matters not which variety is used in conjunction with the mahogany or white wood used for the sides and ends.

The sides A and the ends B should first be plotted and drawn out either on paper or direct on to the wood.

Sides and Ends

In Fig. 2, half of each of these parts are given with squares representing 1in. drawn over so that the decoration can be easily enlarged to full size. When the half has been copied and the lines thickened up sufficiently, a tracing should be made of



this and the lines then redrawn over to get the second half of the designs.

Work carefully on the wood panels which should have been previously cut to proper size to fit the grooved moulding.

The side panels will be 15ins. by 8ins., and the end panels 10½ins. by 8ins., and all ¾in. thick. When the design has been transferred to the wood, the job of fret-cutting must be done, all the interior frets being cut, of course, before the outline is cut round.

Four pieces of the corner moulding should be cut 8½ins. long, and the sides and ends glued with them, care being taken that the whole of the groove is filled and that the sides are squared up one with the other before they are left for the glue to harden.

The Plain Top

The top (E) is a plain square 17ins. by 12½ins., ¾in. thick, with the edges just taken off. When this is being secured to the panelling care should be taken to see an even margin is left all round. Pieces of angle fillet about ½in. or ¾in. in section may be glued round inside the framing for additional strength as shown in Fig. 4.

The top sides (C) are each 12ins. by 5ins. and again are ¾in. thick. The side (D) of which there is only one required is 10½ins. by 5ins., both outlines are contained within the 1in. squares shown in Fig. 3 ready for enlargement.

Trace them off as before, completing

CUTTING LIST

- A—2 pieces 15ins. by 8ins. by ¾in.
- B—2 pieces 10½ins. by 8ins. by ¾in.
- C—2 pieces 12ins. by 5ins. by ¾in.
- D—1 piece 10½ins. by 5ins. by ¾in.
- E—1 piece 17ins. by 12½ins. by ¾in.
- F—1 piece 12½ins. by 4½ins. by ¾in.
- 4 pieces of Hobbies No. 38 Grooved Moulding, 8½ins. long.
- 2 pieces of Hobbies No. 38 Grooved Moulding, 5½ins. long.
- 1 piece of ½in. Angle Fillet, 2ft.

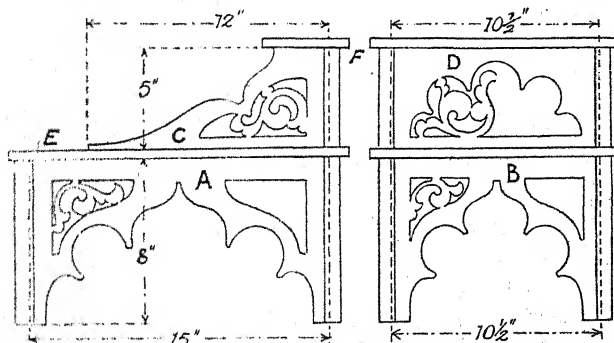
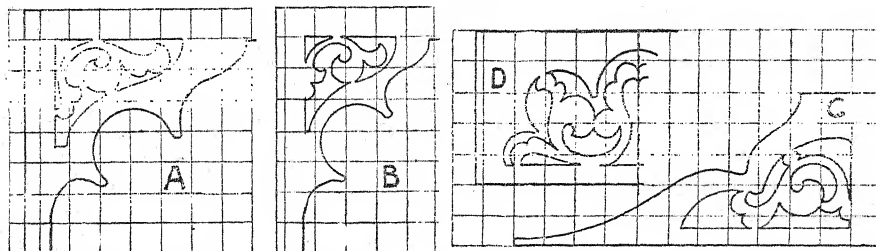


Fig. 1—Front and side view with lettered parts

and D over the centre line shown dotted. The two sections C can be traced off on to a piece of wood measuring 15ins. by 5ins. and afterwards cut through to make it more convenient to handle while fretcutting.

When the work on the three pieces is complete,



Figs. 2 and 3—Drawings of the sides and ends for drawing out on the wood

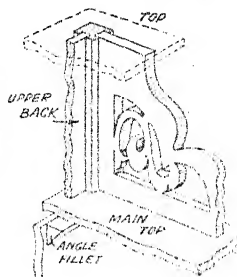


Fig. 4—Detail of corner

the two pieces of grooved moulding must be cut and the whole glued up as Fig. 4 shows.

The top and bottom ends of the moulding should be cleaned off with coarse glasspaper, the lower table section pieces also being treated similarly.

For the top shelf F, a piece of $\frac{3}{4}$ in. wood is required 12 $\frac{1}{2}$ ins. by 4 $\frac{1}{4}$ ins., this is screwed on to the

side sections and a piece of angle fillet glued under in the angle.

All the woodwork should be cleaned up with fine glasspaper before the paint or enamel is applied.

Hobbies matt enamels sold in small 3d. tins are ideal for the purpose, and if the stand is done over white the borders of the frets might be finished red or gold to get the true Oriental appearance.

Other schemes of colouring will doubtless suggest themselves to the worker, the article dealing with the occasional table would be useful in this respect.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars

| NAME | ADDRESS | WANTS FRIENDS | INTERESTS, Etc. |
|----------------------|--|---|---|
| S. W. Wachuku. | G. B. Ollivant, Ltd., Enugu, Nigeria, W.C. Africa. | England. | Curios, Sports, Photography, etc. |
| J. E. W. Onwukwe. | Prisons Hdqrs. Office, Southern Secretariat, Enugu, Nigeria. | Anywhere. | Any Hobbies. |
| Tan Kyin Seng. | 36, Upper Floor, Phongyi St., Rangoon, Burma. | Anywhere. | Fretwork, Stamps, Snapshots, Music, Painting, Coins and Electricity. |
| T. C. Brown. | Midland Bank Bldgs., Spring Gardens, Manchester, 2. | Anywhere aged about 14-15 yrs. | Stamps and Gymnastics. |
| Irving Kay. | 46, Gordon Rd., Bertrams, Johannesburg, S. Africa. | Anywhere. | Fretwork. |
| A. Amos. | 6, Dryden Street, Salt River, Cape Town, S. Africa. | Anywhere. | Anything. |
| E. G. Braithewaite. | 119, Calvert Rd., Derringham Bank, Hull, Yorks. | Anywhere. | Anything. |
| E. Ralph Davis. | 205, Hamilton Ave., St. John's, Newfoundland. | Anywhere. | Anything. |
| J. M. Parikh. | Pipla Sheri, Palanpur (N. Gujarat), India. | Anywhere. | Fretwork and Photography. |
| W. Currie. | c/o Dunn, 134, Main St., Barrhead, Glasgow. | Anywhere. | Entomology, Oology, Nature Photography. |
| B. J. Joint. | 35, Meon Rd., Boscombe East, Bournemouth, Hants. | Anywhere. | Anything. |
| Q. O. Latib. | 362, Pretorius St., Pretoria, Transvaal, S. Africa. | Anywhere. | Fretwork, Stamps, Coins, Postcards, Sport, Cig. Cards, Matchbox Tops. |
| R. Joyce. | 80, Welbeck St., Princes Ave., Hull, E. Yorks. | British Empire, 13-14 yrs. | Stamp Collecting. |
| J. R. Gnanaratnam. | St. Henry's College, Ilkallai, Tellipallai, Ceylon. | Madagascar, France, Fiji Islands, girl or boy under 13. | Stamps, Postcards, Boxing, Magazines. |
| M. C. Nwanze. | c/o Joseph Oputa, Running Shed, Enugu, Nigeria. | Anywhere. | Anything. |
| J. N. C. Otti. | c/o J. D. Onugha, Govt. School, Ajalli, Awka Dist., Onitsha Prov., S. Nigeria. | Anywhere. | Anything. |
| C. K. B. Odunukwe. | Govt. College, Umuahia, S. Nigeria. | Anywhere especially England. | Anything. |
| Young Chui High. | 64, Padungan Rd., Kuching, Sarawak. | Anywhere. | Stamps, Coins, Swimming, Cycling, Postcards. |
| M. C. K. Ballantyne. | Govt. College, Umuahia, S. Nigeria. | Anywhere except W. Africa. | Anything. |
| A. H. Dixit. | Gohartaj Bldg., 1st Floor, Vincent Rd., Dadar, Bombay, India. | Anywhere. | Fretwork, Toys, Models, and Stamps. |
| Glat Eldin Hami. | Teftish Ray Girga, Sohag, Egypt. | Anywhere. | Stamps, Photography, Coins, and Woodwork. |

Study your comfort in SUMMER CYCLING

FOR a happy, care-free, interesting holiday this summer try cycle touring. There is no cheaper or better way of enjoying the "open road" and the delights of the countryside. A tour awheel can be so organised that it admits you to some of the most beautiful and attractive scenery in Britain—and that at a cheap rate.

There are various methods of touring awheel. You can work from a centre, for instance, or indulge in what is termed "point-to-point touring," with a different place, fifty or sixty miles apart, to sleep in each night of your tour.

Advantage of Headquarters

When working from a central headquarters, of course, you return to the same place each evening. It is obvious that the cyclist who adopts the latter will best discover all that is to be found worth noting in a certain region.

He will also have the advantage of leaving his luggage behind, returning to his lodgings at night with the surety of finding a meal and a bed waiting.

One drawback when touring from a central "H.Q." is that you are frequently obliged to cover much of the same roads, twice.

In "point-to-point" touring you get a wider and more general knowledge of a more extensive part of the countryside, though in less detail. For a week-end or a week's holiday "point-to-point" appeals to the writer more than the working from a centre.

Cycle Camping

There is still another method—cycle-camping. With the lightweight tents and accessories now procurable one can enjoy touring in a novel manner. You are independent of inns, hotels, and boarding-houses, which is an advantage in the height of the summer holiday season when most places are over-crowded.

Against this you have the trouble of preparing certain meals, the seeking of a camp-site and the labour of fixing up the camp and the clearing up again before you leave, all of which takes time, so you cannot do the same amount of mileage per day as in touring without a tent. Yet cycle-camping is very attractive, and affords much fun.

We have a further alternative in the Youth Hostels. By becoming a member of the Y.H.A., you are privileged to stay each night at different hostels, where accommodation is clean and comfortable, and where you meet with other cyclists in friendly comradeship.

To enjoy your summer tour in comfort, plan carefully and start out early. See that your machine and kit are "just right" and that you carry no surplus kit.

You should have with you, packed, if possible, in an expanding touring-bag or in rear panniers,

your night "togs," toilet requisites, towel, and a thin pair of light shoes or slippers. If you intend to be away for a week-end only that is about all you will actually want, except for a light mackintosh and leggings—just in case it should rain.

If touring the Youth Hostels you will also require mug, plate, knife, fork and spoon.

For a week's trip, in addition to the above, you need a spare shirt and spare undergarments. For long runs a pair of thin flannel trousers, which can be slipped on in the evenings when taking "your ease at your inn," will be found refreshing.

You can send on these spare clothings by parcel post, to some P.O. on the route, to be called for, and also return any dirty things home by post—this will keep the weight of your luggage down.

Take everything on the machine with you, if you can. To the above add a little box containing sticking plaster and ointment to heal small cuts and bruises.

Ride in Comfort

Before starting out run an eye over your machine and convince yourself that it is in really good running order, and nothing likely to cause trouble. Do not be satisfied until everything is "O.K."

If the weather is very hot, cut down the daily mileage, and do not ride fast. Take things easy, and walk the hills. Dress suitably for the occasion. Avoid heavy plus-fours and thick sports jackets.

Instead, wear shorts, an open-necked shirt, of cotton and silk and an undervest of similar material stockings, and proper cycling shoes. Girls may wear something similar. A light-coloured and lightweight cycling jacket completes personal equipment.

In the bag or pannier you will, of course, carry mackintosh or cape, and spats or leggings.

Do not omit to take with you in the tool-bag a complete set of spanners and a tyre repair outfit—you may need them.

Also see that your oil-can is filled with good lubricant. Give hub bearings a "drink" occasionally, especially in dusty weather; but do not oil too prodigally, as it will only clog with the dust.

Do not start off without your money wallet, a map of the district to be explored (O.S. maps One Inch to One Mile are the best), or your watch. Make your plans early, and see that the time-table is "elastic" to allow of detours—if necessary—and halts here and there.

Do not hurry—ride at an easy pace. If you are a new rider exercise what we may call "first tour discretion." That is, do not attempt too much—keep your daily mileage well within limits and the whole distance to be covered one that is well within your physical abilities.

Let's continue our lessons in MODEL AIRCRAFT BUILDING

We have already explained the elementary principles of model making. Now we can deal with cutting out according to blue prints

FOR simplicity of construction the rectangular section fuselage is by far the best and for this reason should be chosen by the beginner. Generally speaking this type of fuselage is constructed of square section balsa ranging from 1/16 sq. in. to 3/16 sq. in. according to the size and weight of the machine.

By using $\frac{1}{8}$ square balsa for any size from 24-36 inch wing span you are assured of a model that will withstand a terrific amount of heavy knocks without that very disheartening "concertina" effect when the nose block and "prop" are driven down the fuselage.

Choose Balsa Carefully

Having agreed upon the size of balsa to be used this should be carefully chosen at your dealer's and hard balsa with a good straight grain obtained.

This is essential, because although hard balsa is heavier than soft, the smaller amount used in the construction offsets the added weight required by using more soft balsa.

At the same time purchase a good quality fast-drying cement. Ordinary kinds of glue or gum tend to dry brittle and will not stand shock.

Now to the actual building of the fuselage. It is essential to have a perfectly flat board on which to pin down the blue print. This should be about 36ins. by 24ins., although for the small 'plane 30ins. by 24ins. or 18ins. is large enough.

A draughtsman's drawing board is ideal but if you are making the board make the larger size, as this will do for the biggest rubber-driven model you are likely to make.

Whichever you make, be sure it is flat, otherwise all your models will be uneven and impossible to fly.

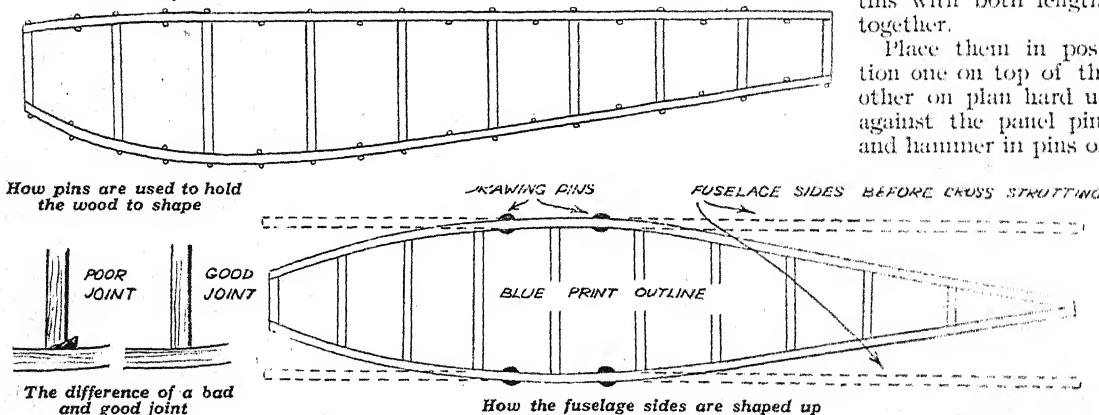
Work on the Blue Print

Now place your blue print on the board and cover with an equal size of tracing paper or ordinary household grease-proof paper and pin both down to the board perfectly flat. The covering of tracing paper will prevent you damaging your blue print more than necessary with blobs of cement, etc.

Next outline the side elevation of the fuselage with panel pins, making a point of putting a pin exactly opposite a strut (see Fig. 1). Also be certain all the pins are definitely upright.

For simplicity and uniformity we are going to build the two sides simultaneously. Cut two lengths of balsa about 2ins. longer than the top longerons and steam (kettle spout) until you can bend them to the shape on the print. You do this with both lengths together.

Place them in position one on top of the other on plan hard up against the panel pins and hammer in pins on



A good cement as sold by Hobbies will "give" on impact without the joint coming apart.

Also with these special cements there is very little waiting between fixing one joint and being able to carry on with the next. This attribute takes away all the unnecessary tediousness from the job.

You will also require two or threepennyworth of $\frac{3}{16}$ in. panel pins and should you not already have any drawing pins, buy a dozen of the large flat headed type.

the inside corresponding with those on the outside. But not opposite those by the struts as this would prevent the struts being inserted later.

Simple Shaping

Proceed to do the same with the bottom longerons and leave awhile to dry.

The beauty of this method is that should your bending be not quite correct, you may be perfectly satisfied that they will be pulled into their correct shape by the pins and when dry, will remain true.

When dry, trim off the excess balsa at either

end and you are ready to put in the down struts. When cutting the down struts, cut them in their respective pairs, as this ensures them being of equal length. Carefully note each pair of struts for the angle formed where they join the longerons. Particularly the bottom longerons, as these being more "bellied" than the top will make more acute angles to be cut.

Get Good Joints

This correct cutting is very important, and will make or mar the soundness of the finished job. These joints must be wood to wood and not wood to a blob of cement to wood. The detail at Fig. 2 shows the difference.

To ensure a good sound joint, smear the end of the strut and its corresponding place on the longeron with cement and allow to dry. Then, with just a dab of cement on the end of the strut, place it in position.

This process should be carried out faithfully with all joints and is well worth the little extra time and care.

Having cut and cemented in all the down struts, leave the whole structure for about fifteen minutes to dry and properly set.

Separating

You may now remove the panel pins, but you will find that the structure has stuck to the tracing paper, wherever the struts are situated. These may be released by carefully drawing a safety razor blade between the longerons and the paper.

You can now see the useful purpose of using tracing paper over the blue-print. You will also find that the struts are cemented together where they engage the longerons and these may be separated in the same manner.

Use the razor blade very carefully in order not to cut the struts or longerons. Special razor blade knives are obtainable for a few pence if you desire.

The Fuselage Plan

We now move to the plan of the fuselage. It will be noticed that the top of the fuselage as shown in the elevation has a fairly long length of straight longerons.

To build up the cross struts we place the two sides upside down on the plan and using two drawing pins per side, pin down the longerons in their correct position (see Fig. 3).

Start with the Widest

Starting with the two widest cross-struts, which are usually situated one third the way back from the nose, cut together as for the down struts and cement in place as before. Take the next pair to the rear and cement.

Next bring together the last pair of down struts (stern-post). These will have to be sanded slightly wedge-shape in order to get a surface to cement and also to keep the fuselage conforming to shape.

Cement them together and hold with a small paper clip. The remaining rear struts can now be cemented in position.

Finishing Parts

Now cut and cement in place the two struts to the fore of the original pair. The two nose cross struts should next be cemented in position and a nose-former (see sketch) of either balsa sheet (hard) or m/m plywood cemented in front. The remaining struts can now be placed in position and the whole job allowed to stand overnight to thoroughly set.

(To be continued).



The August Hobbies PHOTOGRAPHIC COMPETITION

A Holiday Scene

Everyone who has a camera, stands a chance to win a cash prize in our Monthly Competitions. Two sections—Open and Junior. The available subjects under the above heading are widespread and give everyone a chance to enter at least one print. There is no entrance fee, but good prizes are offered.

Closing Date :
August 31st

RULES AND PRIZES

In the Open Section a 1st Prize of a Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed: Amateur Photographic Competition,

Hobbies Weekly, Dereham, Norfolk, and must arrive not later than August 31st. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or J.I.I.G. are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the next issue. To order anything except fretwork goods or those shown in Hobbies Magazine, orders can be sent either to Hobbies Weekly, Advertisers, 10, The Hill, London, E.C.4, or Dereham, Norfolk.

MAKING A CLOCK? We supply movements from 3/9. Hobbies Ltd., Dereham.

LONELY? Then write Secy., U.C.C., 16BB, Cambridge St., London, S.W.1. Genuine. Estab'd. 1905.

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The ART OF FRETWORK

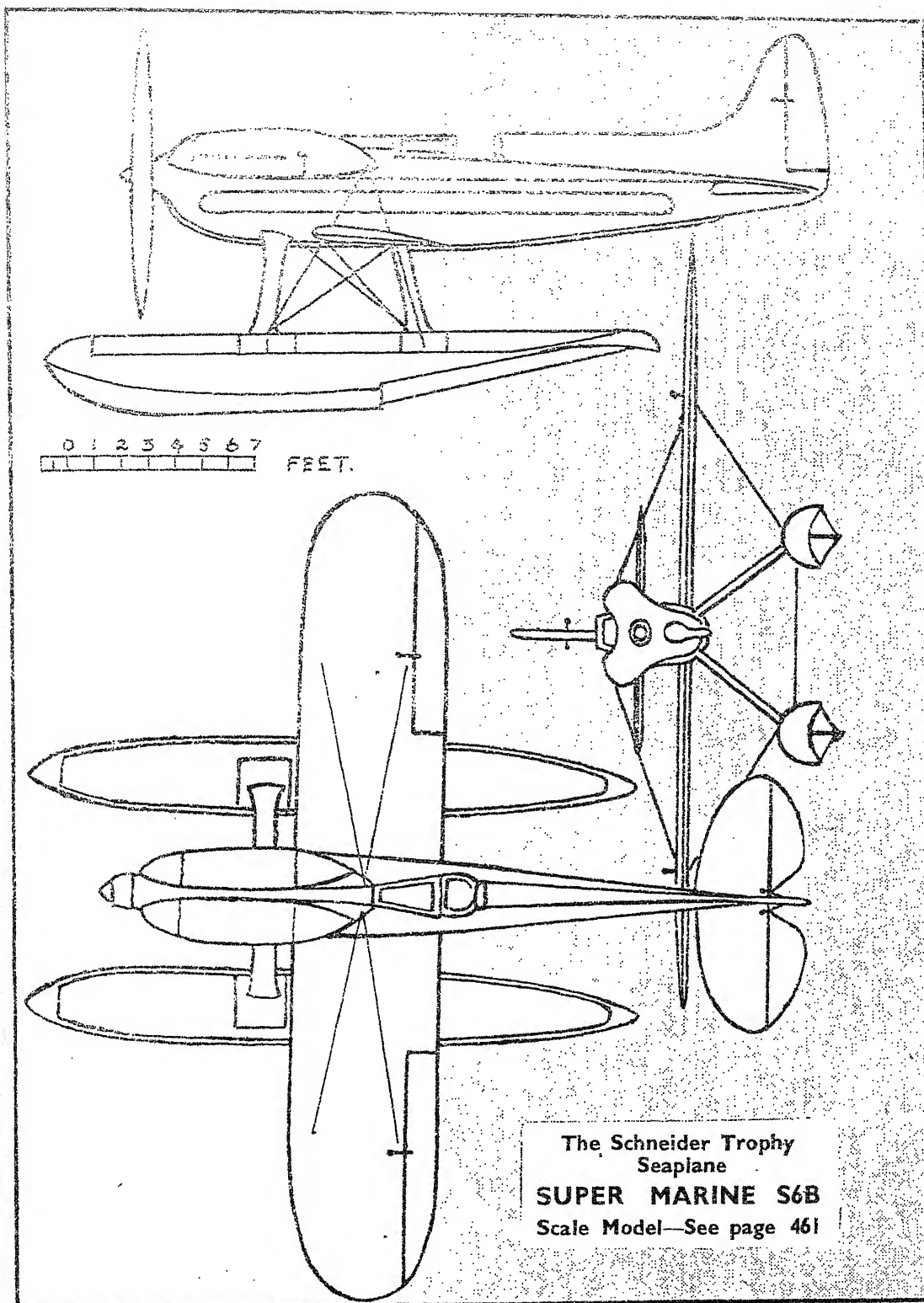
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Seaplane
SUPER MARINE S6B
Scale Model—See page 461

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fixing jig saw pictures to wood
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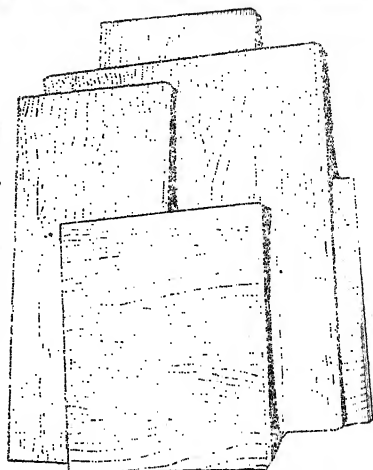
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| 1/2 in. | 60 in. x 48 in. (20 sq. ft.) | ... | Price | 10/6 |
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The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

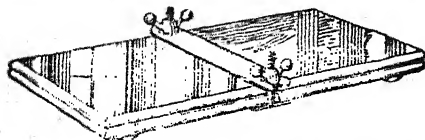
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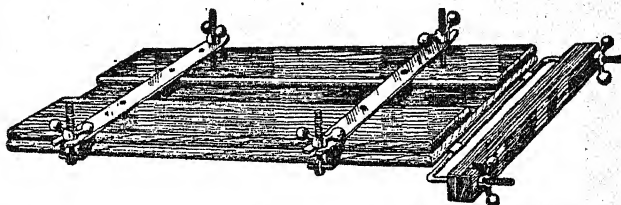
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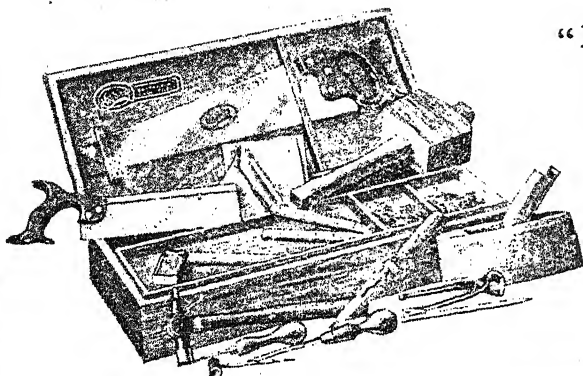
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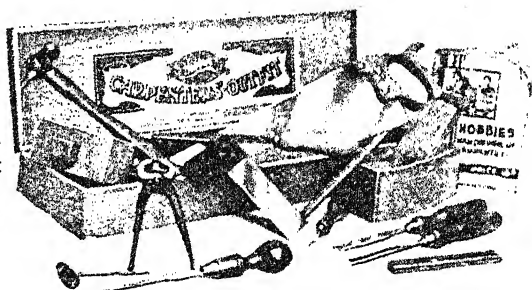
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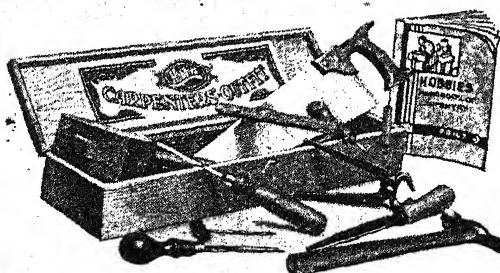
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